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PRIMARY TORSION OF THE GREAT OMENTUM

With Report of Two Cases* and Review of Twenty-Nine Cases Collected in the Literature

BY EMILIO D'ERRICO, M.D.†

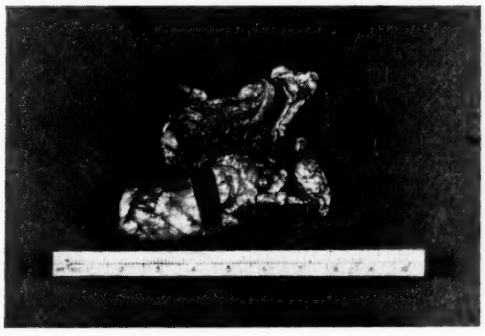
PRIMARY torsion of the great omentum is relatively not uncommon. Recent surgical textbooks, nevertheless, either ignore the subject completely, or discard it with a passing remark. Current journal articles, however, give this affection a prominent place, pointing out primarily the difficulty in diagnosing the condition preoperatively, and its importance in explaining obscure abdominal pain. Cowell[1], Mullen[2], and MacWhorter[3], within the past five years, have written brilliant articles dealing with all types of omental torsions, but I have failed to find any one paper concerned exclusively with primary torsion, i.e., torsions of the omentum which are in no way whatever related to pathology elsewhere, be it within or without the abdomen.

Recently I have operated on one such case, and Dr. H. H. Germain[4] had another a few years ago. Both will be presented as illustrative cases:

CASE 1. Evelyn S., aged 7, was admitted to the Cambridge City Hospital on December 19, 1929, with a diagnosis of acute appendicitis. Her family history was negative. Her past history, except for measles 3 years previously, was also negative. On December 16, while at play, she was suddenly seized with severe sharp pain in the right lower quadrant. There was no nausea or vomiting. The pain lasted but a few minutes and when it cleared up, she returned to her play. During the following two days she often complained of abdominal pain, but it was not till the third day that the family physician made the diagnosis of acute appendicitis and referred the patient to the hospital.

She was seen by me early on the evening of December 19. Physical examination showed a well-developed and nourished child, coöperative and rational. Her face was flushed. Ears, nose, and throat negative. Tongue rather dry but not furred or coated. Heart and lungs were negative. The abdomen was symmetrical and tense. Palpation showed marked tenderness over the entire right side. Moderate tympany over the left upper quadrant. No masses or costovertebral tenderness. The skin was clear and velvety; no rash. There were no enlarged glands. No abnormal reflexes. Temperature 101.4°; pulse 140; respirations 24. The W. B. C. was 16,200. The urine was pale, acid, with no albumin or sugar and the sediment showed an occasional pus cell. A diagnosis of acute, probably perforative, appendicitis was made and the child prepared for operation.

Operative Note:—Ether anaesthesia. Right pararectal incision about 3 inches long. Abdominal cavity opened with escape of increased amount of turbid, odorless fluid. Finger exploration disclosed a firm mass suggesting a large gangrenous appendix. This mass was lightly adherent to the parietal peritoneum by very delicate fibrinous adhesions. The mass was easily delivered through the wound, and was found to consist of dark red, oedematous omentum, about the size of a man's thumb. Its distal



Photograph of specimen of torsion of the omentum, Case 1.

end was caved in, resembling a perforated appendix with omentum covering its tip. After a long search the appendix was found; it was retrocecal, retroperitoneal, elongated and slightly injected. It was apparent, however, that the appendix had no bearing on the inflamed omentum. The abdominal wound was enlarged and the appendix removed. The abdomen was explored for some other focus. The mesenteric glands were apparently normal. The small intestine was slightly distended, but there were no ulcerations, adhesions, or kinks. Meckel's diverticulum was not found. On inspection of the colon, the bowel itself appeared normal in shape and color, but the omental mass above described was found to be attached to the hepatic flexure by a pedicle of omentum twisted once on itself. This was resected, and the cut edges sutured in small sections with three or four interrupted No. 0 chromic catgut sutures. The bowel was not disturbed. The abdomen was closed in layers without drainage.

The patient had an uneventful convalescence. On the third day her temperature and pulse were normal and they remained normal. The wound healed by first intention.

Pathological Report:—Specimen, portion of omentum. Omentum is rolled up to form a sausage-shaped structure 6 cm. long, 1.5 cm. in diameter, attached by one border to a wide pedicle 2.5 cm. long, made up of normal omentum. Section through the rolled portion shows in center a widely dilated vessel filled with soft clot. Omentum is reddened.

Microscopic examination shows thrombosis of the

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larger vessels, hemorrhage, and a marked serous and polynuclear exudate.

Diagnosis:—Torsion of omentum with thrombosis, hemorrhage, and acute inflammation.

CASE 2. J. F., aged 41, station master, was admitted to the Cambridge City Hospital on February 7, 1926, complaining of right lower abdominal pain and a severe cold. He had had lobar pneumonia 16 yrs. before, but otherwise had always been in good health. On admission he stated that two days previously he had "caught cold" while waiting for a street car. On the following day he complained of rather severe abdominal pain without nausea or vomiting. The abdominal pain grew worse that afternoon and was more marked on the right side. On the morning of admission, the pain was unbearable and radiating to the right chest. He was admitted to the hospital with a diagnosis of appendicitis.

Physical examination showed an obese, middle-aged man, pale, "cold and clammy", obviously in severe pain. Head, heart, and lungs were negative. The abdomen was tense, with generalized tenderness, more marked over the right lower quadrant, where there was also considerable spasm and evidence of an indefinite mass. Temperature 98°, pulse 96, respirations 26, W. B. C. 17,000.

Operative Note:—Operator: Dr. H. H. Germain. Gas-oxygen-ether anaesthesia. Right rectus incision. On opening the abdomen, considerable bloody fluid was found in the abdominal cavity. Exploration disclosed the right half of the great omentum twisted on itself and partially necrotic, forming a mass about 6 inches in diameter. This was excised proximal to the point of torsion. A rubber dam drain was inserted and the abdomen closed in layers about the drain. The patient stood the operation poorly, and was given 1000 c.c. of salt solution on the operating table.

Postoperative Notes:—Patient vomiting considerably. Stomach washed out. Vomiting continued for 4 days. Temperature varying between 98.4-99°, pulse 98-102, respirations 28-30. On the 5th day, some congestion of both lung bases. On the 6th day, the patient died suddenly.

Discharge Diagnosis:—(1) Torsion of the Omentum. (2) Pulmonary Embolism.

DEFINITION

By torsion of an organ or growth is meant that pathological displacement in which the involved structure becomes, in whole or in part, so twisted on itself as to produce strangulation of its tissue.

Torsion of the abdominal viscera is not infrequent. It is especially common in relation to the ovary and uterus, when these are the site of pedunculated growths. Torsions of the Fallopian tube (Truesdell[5]); of the gall bladder (Irwin[6]); and of the spleen (Sutton[7]), have also been reported. Torsion of the intestine and appendix; "kinking", is very common. Torsion of the omentum is next in frequency.

HISTORY

Pierre de Marchette (1851) is credited by Aimes[8] with having been the first surgeon to describe the condition. Oberst[9], in 1882, was the second to report its incidence. Both cases, however, were associated with inguinal hernia. When Scudder[10] described his case of primary torsion of the omentum, he stated that his was the first case to be reported. We find, however, that Eitel[11], Baldwin[12] and Syme[13] had already recorded one case each.

CLASSIFICATION OF TORSION OF THE OMENTUM

The following classification, suggested by Cowell, I consider to be both very simple and comprehensive:

(1) Abdominal
  (a) Primary, with no apparent cause.
  (b) Secondary, associated with diseases of an abdominal or pelvic organ.

(2) Hernial
  (a) Intra-saccular
  (b) Intra-abdominal
  (c) Combined

As already stated in the opening paragraph of this paper, I shall limit my discussion and consideration only to those cases which, in the classification, fall under the abdominal types, and of these, only the primary form, that is, torsions without any apparent cause—torsions not associated with inflammatory conditions of an abdominal or pelvic organ and not related to herniae of any type.

Primary torsions of the omentum, of course, are the least common. I have collected 29 cases from the literature, abstracts of which are found appended to this article. In passing I wish to mention that torsions of the omentum associated with, and in direct relation to, herniae are quite frequent, several hundred cases having been collected.

ETIOLOGY OF PRIMARY TORSIONS OF THE OMENTUM

Perhaps the most ingenious theory of the factors involved in producing torsion was expounded by Payr[14], one of the earliest workers on this subject. Believing that a predisposition to torsion was caused by the presence of a bulbous tip, such as a small cyst on the lower margin of the omentum, he produced, experimentally, spontaneous torsion by the formation of small gas cysts, or by inserting small pieces of cork and paraffin. He concluded that torsion is due to hyperemia in the veins. These, being larger and more tortuous than arteries, when compressed by a "kink" of any kind, become turgid and full of blood. The arteries form thus tense cords, about which the omentum turns and, as the twisting continues, obstruction to circulation and subsequent strangulation ensue.

Anatomic variations in the blood supply of the omentum have been given importance; also congenital formation of a pedicle (Baldwin[12]); congenital omental bands (Draper and Johnson[15]); and congenital accessory omentum (Bierman and Jones[16]), have been thought of as possibilities. Shoenholzer[17] says categorically, "No inflammation, no torsion." Jaboulay[18] believes that the condition results from an exaggeration

of normal omental movements, while Bazy[19] is of the opinion that it is the result of increased peristalsis.

In a personal communication, Dr. H. H. Germain (Surgeon-in-Chief of the Cambridge City Hospital, whose case I have reported above) believes that the basic factors in the causation of torsion are thrombosis and embolism. Thrombosis caused by: (a) slight trauma to the delicate endothelium lining the omental veins, or (b) an endovenitis secondary to a focus of infection elsewhere. Embolism may either follow this thrombosis or may come from some obscure source. In support of his theory he offers the fact that several of the deaths following torsion are due to embolism.

Obesity, no doubt, is a very important factor. Eighteen of the reported cases occurred in fat subjects.

Trauma and pressure to the abdominal wall are also important (Cernezzi[20]); in several of the reported cases there is a definite history of either trauma or pressure, or both. Either may cause slight trauma to the omentum sufficient to start a hyperemia or thrombosis. Added immediate possible causes of torsion suggested by other authors are: coughing, efforts at lifting, bicycle riding, dancing, hard labor, violent purgation.

AGE INCIDENCE

The largest number of cases has occurred in the second and fourth decades, seven cases in each. Six cases occurred in the fifth, and four cases in the third decade. The oldest cases were in a 59 year old male and a 65 year old female. Coen's[21] patient and my own were the youngest, both 7 year old children, his a boy, and mine a girl.

SEX INCIDENCE

Males show a marked predominance, 22 to 9.

PATHOLOGICAL ANATOMY

Primary torsion may involve the entire great omentum or only a portion of it. In the greatest number of cases only its right half is involved. The presence of the liver edge and the mobility of the pyloric end of the stomach, I believe, may be the predisposing factors. The twisting usually follows the hands of the clock and it may be from a partial twist to eight complete turns. The number and site of the twists govern the size and position of the pedicle. This is generally described to be the size of a finger, and may be found near the base, the mid portion, or the free edge of the omentum. There may be two separate points of constriction. The entire omentum may be rolled over in rope fashion. Cathelin[22] calls the process a vicious cycle, in that the larger the mass becomes, the more it is apt to twist; and the more it twists, the larger it becomes. In size, the strangulated mass varies with the extent of the organ involved and the amount of omental fat present.

The mass has been described as oedematous, dark red, purple, black, or gangrenous. In consistency it has been likened to that of "a gauze sponge found in the abdomen" (Stewart[23]); or to pasteboard (Lefebvre[24]). The veins have been reported as distended. The mass has frequently been found adherent to the neighboring organs or to the anterior parietal peritoneum by very fine, recent, fibrinous adhesions.

MacWhorter[3] describes three stages of changes in the omentum: (a) congestion and venous stasis; (b) extravasation of blood, infarct formation and thrombosis of blood vessels; and (c) necrotic and gangrenous changes. Areas of increased connective tissue formation with exudation of white blood cells and stasis are also noted.

Oedema and thickening of the parietal peritoneum overlying the mass have frequently been found.

In most of the cases, on opening the peritoneal cavity there was evidence of increased peritoneal fluid, its quantity being implied by various terms as "a rush", or a "gush", or simply "in excess". In type the fluid has been described as "sero-sanguineous", "turbid", or "bloody".

SYMPTOMATOLOGY

Abdominal symptoms preëxisting over a considerable period of time, in the reported cases of primary torsion, may be said to be insignificant. They were present in only two or three instances. Abdominal pain is the outstanding symptom, severe at the onset, or gradually growing worse and localized in most cases in the right lower quadrant. In a few cases the pain was in the epigastrium, in the right upper quadrant or about the umbilicus.

Vomiting has occurred in about half of the reported cases. It may precede or follow the onset of pain, or it may occur late, with the increase in the severity of the symptoms. There may be signs of obstruction if the transverse colon is involved in the twist.

The bowels are usually open, gas and feces passing freely; diarrhea has been the most prominent symptom in several cases. The pulse is usually accelerated, and the temperature moderately elevated. The white blood corpuscles were increased from 9000 to 17000 in most of the reported cases.

Abdominal examination has shown a decrease, or absence, of abdominal excursion during respiration. Rigidity and muscle spasm were present in most of these cases and usually corresponded to the painful region. Tenseness with tympany over the left upper quadrant and dullness over the involved area were frequent findings. A palpable tumor was present in 40% of the cases.

DIAGNOSIS

The condition has rarely been recognized before operation. In the largest number, the preoperative diagnosis was acute appendicitis. Next in frequency of mistaken diagnoses were cholecystitis and ovarian cyst with twisted pedicle.

The chief points in the differential diagnosis from appendicitis are:

(1) Nausea and vomiting are usually present in acute appendicitis, while either or both may be lacking in torsion.

(2) If a mass is present, it develops suddenly with torsion, slowly with appendicitis; it may be movable in torsion, while it is fixed in appendicitis.

(3) Tenderness and spasm in the right lower quadrant are almost constant signs with appendicitis, while with torsion the tenderness is less marked and more diffuse. However, if the possibility of torsion of the omentum is entertained in the differential diagnosis, acute abdominal pain may lead one to suspect it.

PROGNOSIS

Recovery is the rule if submitted to surgery. In this series of 31 cases there were two deaths; one due to embolism, and the other due to bronchopneumonia.

TREATMENT

The treatment is always surgical—laparotomy and complete exploration of the omentum for more than one torsion. Care must be taken in the handling of the omentum because of the possibility of embolism. Untwisting the involved portion is unwise because of the strong possibility of recurrence. Resection of the omentum involved in the torsion must be the rule, taking care to ligate the pedicle in small sections to avoid kinking of the bowel. Further investigation should be carried out to discover any other inflammatory condition with which the torsion may have been associated. It must always be borne in mind that, although most of the omentum may be removed without danger to life, when such a procedure is necessary, it is, nevertheless, a very important structure and worthy of conservative surgery. Drainage is usually not necessary.

SUMMARY

(1) In the diagnosis of this rare condition it is usually mistaken for acute appendicitis.

(2) Thrombosis as a causative factor in torsion of the omentum is worthy of consideration.

(3) Partial or total torsion of the great omentum should always be considered in the differential diagnosis of abdominal pain.

(4) Surgical intervention and resection of the involved portion of the omentum should be the rule in the treatment.

(5) Prognosis is generally good.

The following are abstracts from the reported cases of primary torsion of the omentum:

1. Eitel[11] (1899). Male, 44, miner, suffering from ascites. Following the second abdominal tapping, four weeks later, he was seized with severe abdominal pains. A tumor of a doughy consistency was felt in the mid-line. Laparotomy disclosed an adherent torsion of the omentum. This was unrolled and returned to its normal position.

Uneventful recovery.

2. Baldwin[12] (1902). Male, 47. Suffered 2 days with pain in R. L. Q. No nausea or vomiting. No tumor felt. Tenderness and rigidity over McBurney's region.

Preoperative Diagnosis: Appendicitis.

Operation:—Omentum found rolled up so as to make a distinct tumor with a pedicle which was twisted on itself eight times, the entire mass being about the size of a large fig, which was removed by ligature and incision of the pedicle.

3. Syme[13] (1902). Female, 51. Severe right-sided abdominal pain.

Preoperative Diagnosis: Abdominal Hydatid Disease.

Operation:—Operated on the seventh day. Mass of strangulated omentum found which was transfixed and the indurated portion removed.

Recovery uneventful.

4. Scudder[10] (1904). Male, 25. Generalized abdominal pain with vomiting at onset, later localizing to right iliac fossa. Indefinite mass in right iliac fossa.

Preoperative Diagnosis:—Appendicitis.

Sketch from colored plate of specimen in Scudder's case. See case report No. 4.

Operation:—Operated on the 8th day. Entire omentum found twisted several times on itself, which was removed just below the transverse colon and tied off in sections.

Recovery uneventful.

5. Stewart[23] (1904). Male, 35. Right lower abdominal pains for four days. Temperature 101, pulse 120. Vomiting several times; bowels moved freely. Right side of abdomen rigid, with point of greatest tenderness at the outer border of the right rectus muscle on a level with the umbilicus.
Preoperative Diagnosis:—Acute Appendicitis.
Operation:—Appendix normal. Mass, gangrenous and twisted, feeling like a "gauze sponge" proved to be the right lower corner of the omentum which after removal measured six inches long and three inches wide.
Uneventful recovery.

6. Cullen[25] (1905). Male, 47. Mass felt. Temperature 101°, pulse 100.
Preoperative Diagnosis: Acute Appendicitis.
Operation: Twisted omental mass 14 x 12 cm. removed.
Uneventful recovery.

7. Simon[26] (1905). Male, 26. Right iliac pain with vomiting at onset. Temperature 100°, pulse 100.
Preoperative Diagnosis:—Subacute appendicitis.
Operation:—Delayed 10 days. One and one-half liters of dark fluid escaped. Mass of strangulated omentum 18 x 10 x 6 cm. removed.
Recovery uneventful.

Reproduction of sketch of specimen removed in the case reported by d'Allaines et Rouffiac. See case report No. 11.

8. Kothe[27] (1907). Male, 26.
Preoperative Diagnosis: Acute Appendicitis.
Operation:—Free fluid in abdomen. Portion of omentum with twisted pedicle removed.
Patient recovered.

9. Skeel[28] (1907). Male, 21. Epigastric pain and vomiting. Temperature 101, pulse 116. Rigid abdomen.
Preoperative Diagnosis: Appendicitis.
Operation: Operated on the 4th day. Blood-stained fluid and a mass of omentum with a pedicle twisted five times removed.
Recovery uneventful.

10. Köhler[29] (1918). Female, 27. Admitted to the hospital with diagnosis of acute appendicitis. Temperature 38C; pulse 120.
Preoperative Diagnosis: Acute Appendicitis.
Operation: Performed after several days. Dark fluid found in abdomen; right half of omentum found in torsion.
Uneventful recovery.

11. d'Allaines and Rouffiac[31] (1923). Female, 51. Generalized abdominal pain. Temperature normal; no vomiting. Mass felt in right iliac fossa.
Preoperative Diagnosis: Not stated.

Operation: Operated on the 8th day. Large mass of twisted omentum with large amount of blood-stained fluid in peritoneal cavity.
Recovery uneventful.

12. Lefebvre[24] (1923). Male, 55. Violent and sudden right-sided abdominal pain with nausea and vomiting of two days' duration. Temperature 39.4C; pulse 130. Tenderness and marked resistance over McBurney's point. No masses felt.
Preoperative Diagnosis: Acute Appendicitis.
Operation: Dark mass found to consist of omentum with torsion near its attachment to the right half of the transverse colon. Broncho-pneumonia on 3rd day.
Death resulted from broncho-pneumonia on the 6th day.

13. Cowell[1] (1925). Male, 48. Epigastric and right-sided abdominal pain. Temperature 99, pulse 90.
Preoperative Diagnosis: Cholecystitis or subacute appendicitis.
Operation:—Operated on the 4th day. Free blood-stained fluid and a mass of omentum 12 x 7 x 3 cm. with a twisted pedicle.
Recovery uneventful.

14. Nixon[30] (1925). Male, 29. Vague epigastric pains for one week. Twenty-four hours before admission pain became worse after lifting a heavy iron pipe, and was more pronounced in R. U. Q. No vomiting. Abdomen distended with maximum tenderness over gall bladder region.
Preoperative Diagnosis: Acute cholecystitis.
Operation: Mass of dark, raw gangrenous omentum (6 inches x 3½ inches) with its proximal end twisted on itself, clockwise, by two turns.
Good recovery.

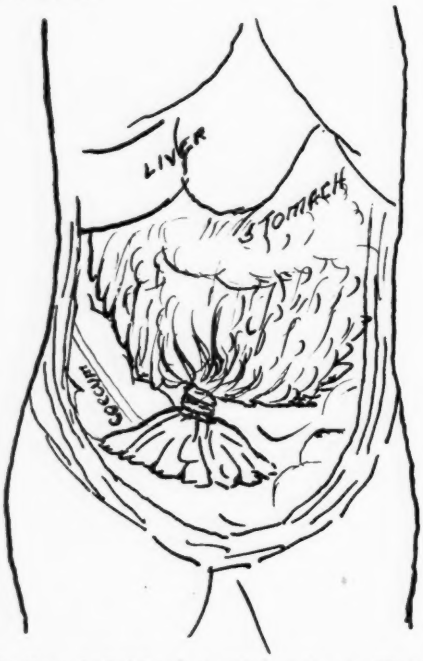
15. Mullen[2] (1925). Male, 34, complaining of sickening abdominal pain and sensation of something like "a lump" moving in the right side for three days. Persistent nausea and vomiting. Temperature 100.3°, pulse 104, W. B. C. 9,000. Abdominal distention, slight rigidity and tenderness on the right. Mass felt above Poupart's ligament.
Preoperative Diagnosis: Acute appendicitis with abscess.
Operation:—Mass found to consist of oedematous, purplish, twisted omentum with a ball-like mass forming the "lump" complained of by the patient. This was removed.
Uneventful convalescence.

16. Comstock[32] (1927). Male, 38. Severe pain in right side of abdomen. No nausea or vomiting. Temperature 98.6°, pulse 90, W. B. C. 17,000.
Preoperative Diagnosis: Acute Appendicitis.
Operation: Large amount of bloody fluid. Torsion of omentum up to its attachment to the colon.
Uneventful convalescence.

17. Hinton[33] (1926). Female, 28. Right lower abdominal pain with vomiting. Temperature 99°, pulse 80, W. B. C. 17,000. Marked tenderness with slight rigidity over McBurney's point.
Preoperative Diagnosis: Acute appendicitis.
Operation: Gangrenous omental mass removed.
Uneventful convalescence.

18. Koster[34] (1926). Case I. Male, 58. Sudden pain in R. U. Q. No nausea or vomiting. Temperature 103.2°, pulse 116; W. B. C. 12,400. Palpable mass in R. U. Q. from costal arch to level of umbilicus.
Preoperative Diagnosis: Acute cholecystitis.

Sketch from photograph of specimen in Mullen's case. See case report No. 15.



Reproduction of sketch of omental torsion in Hinton's case. See case report No. 17.

Operation: Considerable free fluid in abdomen. Gall bladder and appendix normal. Large portion of the omentum rolled into mass by many twists of its proximal portion resected.
Uneventful convalescence.

19. Case II. Female, 44. Pain in right upper quadrant for five days. Palpable mass in R. U. Q. Temperature 101.2°, pulse 90. W. B. C. 11,200.
Preoperative Diagnosis: Acute cholecystitis.
Operation: Sero-sanguineous fluid. A gangrenous mass of omentum hanging from the transverse colon by a narrow twisted pedicle which had made eight complete twists was resected.
Uneventful convalescence.

20. Lange[35] (1926). Female, 46. Right abdominal pain for three days. No vomiting. Temperature 99°, pulse 108. Abdomen tender, resistant, and dull on right side.
Preoperative Diagnosis:—Appendicitis.
Operation: Gangrenous twisted omental tissue removed.
Uneventful convalescence.

21. Riddel[36] (1926). Male, 46. Dull pains at the right of umbilicus, gradually increasing in intensity for two days. Temperature 97.2, pulse 86. Tenderness and rigidity lower half of right rectus. Palpable mass present.
Preoperative Diagnosis:—Subacute appendicitis.
Operation: Free fluid, slightly smoky. An omental mass size of green fig, and undergoing red infarction, found arising from right hand edge of omentum was removed.
Uneventful recovery.

22. Dudgeon[37] (1927). Male, 63. Severe diarrhea for two days followed by severe cramping pain in the R. U. Q. with nausea and vomiting. Temperature 100°, pulse 90, W. B. C. 12,000. Tenderness and distinct rigidity over R. U. Q.
Preoperative Diagnosis:—Acute cholecystitis.
Operation: Gush of blood-stained serum. A slate-colored mass of twisted omentum was removed.
End results not reported.

23. Pollidori[38] (1927). Female, 38. Sudden pain in R. U. Q. of abdomen. No nausea or vomiting. Temperature and pulse normal. Abdomen distended with an indefinite tender mass in R. U. Q.
Preoperative Diagnosis: Acute intestinal obstruction.
Operation: Two-thirds of the omentum twisted near its colic attachment was resected.
Uneventful convalescence.

24. MacAuley[39] (1927-1928). Case I. Male, 25. Sudden pain in the right iliac region lasting 24 hours; vomiting once. Temperature 100°, pulse 86. Slight rigidity with marked tenderness over right iliac fossa.
Preoperative Diagnosis: Acute appendicitis.
Operation: Oedema of peritoneum. Blood-stained fluid and fine adhesions. A portion of right margin of the omentum with a twist at its base was removed.
Good recovery.

25. Reid[40] (1927, 1928). Female, 65. Aching discomfort in lower abdomen for a fortnight, then severe lancinating pains in upper abdomen following a dose of castor oil, which was promptly vomited. Temperature 98°, pulse 80. Whole abdomen rigid and very tender above and to the right of the umbilicus.
Preoperative Diagnosis: Appendicitis.
Operation: Free flow of blood-stained clear fluid. Mass of strangulated omentum was found adherent by a small tip to the lesser curvature of the stomach. No other lesions found. Omental mass removed.
Uneventful convalescence.

Taken from photograph of specimen in Pollidori's case. See case report No. 23.

Taken from photograph of specimen in MacAuley's case. See case report No. 24.

26. Coen[21] (1928). Male, 7 yrs. Severe abdominal pain in R. L. Q. and radiating to the umbilical and epigastric region. No vomiting. Temperature 39C; pulse 98. Tenderness with spasm and indefinite mass in R. L. Q.

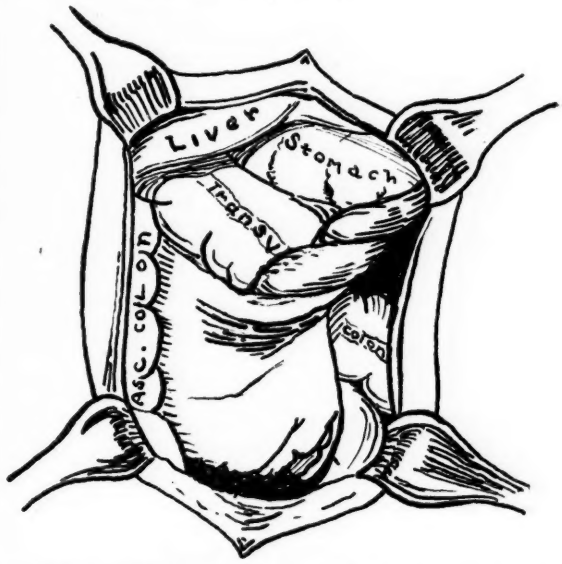
Preoperative Diagnosis: Acute Appendicitis.

Operation: Excess serous, turbid peritoneal fluid. Slightly congested appendix removed. Freely movable, twisted portion of the great omentum (8 x 4 cm.) with necrotic spots discovered before closing the abdomen. It was rolled over several times and its pedicle was attached to the right half of the transverse colon.

Uneventful convalescence.

27. MacWhorter[3] (1928). Case I. Male, 55. Severe sharp abdominal pain in right upper quadrant after a fall. No nausea or vomiting. Marked tenderness with palpable mass in R. U. Q. Temperature 99.6°, pulse 100; W. B. C. 17,000.

Preoperative Diagnosis: Not given.



Sketch from photograph of specimen in MacWhorter's Case I. See case report No. 27.

Operation: Disclosed a complete twist at the base of the omentum which was strangulated and hemorrhagic throughout. The whole omentum was resected above the twisted part which was somewhat

Sketch from photograph of specimen in MacWhorter's Case II. See case report No. 28.

smaller than the thick fat distal mass. On the 11th day after operation a typical bronchial pneumonia developed, probably of embolic origin.

Complete recovery after twenty-six days in the hospital.

28. Case II. Male, 49. Sharp pain in R. L. Q. of four days' duration, beginning after putting up storm windows. No vomiting. Exquisite tenderness with spasm over R. L. Q. No palpable mass. Temperature 99.4°, pulse 92; W. B. C. 12,000.

Preoperative Diagnosis: Not given.

Operation: Mass size of kidney, found to be strangulated and hemorrhagic omentum. This was removed.

Uneventful convalescence.

29. Susman[41] (1928). Male, 59. Flatulence and slight right lower abdominal pain for a fortnight. Sudden increase in severity of pain for two days. No nausea or vomiting. Temperature 37.8C; pulse 86. Tenderness and rigidity over the whole right side of abdomen. No tumor felt.

Preoperative Diagnosis: Acute Appendicitis.

Operation: Free bloody fluid. The extreme right side of the omentum was found to be axially rotated on itself several times. No other abnormalities found. Omental mass was removed.

Uneventful convalescence.

REFERENCES

1 Cowell, E.: Abdominal torsion of the omentum. Brit. J. Surg. 12:738-751, April 1925.
2 Mullen, T. F.: Torsion of the great omentum. Surg. Gynec. Obst. 40:635-641, 1925.
3 MacWhorter, G. L.: Torsion of the omentum without hernia. Arch. Surg. 16:569-582, Feb. 1928.
4 Germain, H. H.: Surgeon in Chief, Cambridge City Hospital, Cambridge, Mass.
5 Truesdell, E. D.: Acute torsion of the Fallopian tube. Ann. Surg. 82:646, 1925.
6 Irwin, S. T.: Torsion of the gall bladder. Brit. J. Surg. 9:310, 1921-22.
7 Sutton, J. E.: Wandering spleen with torsion of its pedicle. Ann. Surg. 82:239, 1925.
8 Aimes: La torsion du grand épiploon. Prog. méd. 34:425, 1919.
9 Oberst, M. C.: Zur Kasuistik des Bruchschnittes nebst einigen Bemerkungen über Netzeinklemmungen. Centralbl. f. Chir. 9:441-447, 1882.
10 Scudder, C. L.: Intra-abdominal torsion of the entire great omentum. Ann. Surg. 40:916, 1904.
11 Eitel, G. G.: A rare omental tumor. Med. Rec. 55:715, 1899.
12 Baldwin, J. F.: A contribution to the study of intra-abdominal omental torsion. Ann. Surg. 36:940, 1902.
13 Syme: Inter. M. J. Australia, 1902, p. 444.
14 Payr, E.: Ueber die Ursachen der Stieldrehung intraperitoneal gelegener Organe. Arch. f. klin. Chir. 68:501, 1902.
15 Draper, J. W. & Johnson, R. K.: The pathologic omentum. J. A. M. A. 88:376-379, Feb. 5, 1927.
16 Bierman, M. I. & Jones, W. M.: A third omentum. Surg. Gynec. Obst. 36:708, 1923.
17 Shoenholzer: Quoted by Thevenard, P. Torsion aigue de l'épiploon. Paris Chirurg. 3:38, 1911.
18 Jaboulay: Quoted by Aimes.
19 Bazy: Quoted by Aimes.
20 Cernezzi: La Clin. Chirurg. Anno 17, 1, p. 664. 1909.
21 Coen, V.: Sur un caso di torsione acuta del grande omentum. Policlinico (Surg. Sect.) 35:252-260, May 1928.
22 Cathelin: Quoted by Aimes.
23 Stewart, F. T.: Volvulus of the omentum. J. A. M. A. 42:767, 1904.
24 Lefebvre, C.: Torsion du grand épiploon. Bull. et mém. Soc. de Chir. de Par. 49:175-179, 1923.
25 Cullen, T. S.: Accessory omentum. Johns Hopkins Hosp. Bull. 16:237, 1905.
26 Simon, O.: Intraabdominale Netztorsionen. Münch. med. Wchnschr. 52:1979, 1905.
27 Kothe, R.: Ein Fall von intra-abdominaler Netztorsion. Deutsche med. Wchnschr. 34:738, 1908.
28 Skeel, R. E.: Intra-abdominal torsion of the great omentum without hernia. Am. J. Obst. 56:799-806, 1907.
29 Köhler, R.: Netztorsion. Arch. f. klin. Chir. 111:514, 1918-19.
30 Nixon, J. W., Jr.: Torsion of great omentum. Texas State J. Med. 20:659-660, April 1925.
31 d'Allaines, G. & Rouffiac: Torsion intra-abdominale du grand épiploon sans hernie. Bull. et mém. Soc. anat. de Paris 93:327, April 1923.
32 Comstock, A. E.: Primary torsion of omentum; report of case. Minnesota Med. 10:201-202, March 1927.
33 Hinton, J. W.: Torsion of great omentum producing symptoms simulating acute appendicitis. Arch. Surg. 13:507-510, Oct. 1926.
34 Koster, H.: Acute omentovolvulus. Am. J. M. Sc. 172:230-237, Aug. 1926.
35 Lange, E. R.: A case of abdominal torsion of the omentum. New Zealand M. J. 25:175, 1926.
36 Riddel, J.: Primary abdominal torsion of great omentum. Brit. M. J. 2:525, Sept. 18, 1926.
37 Dudgeon, H. R.: Torsion of abdominal viscera. Texas State J. Med. 23:388-392, Oct. 1927.
38 Pollidori, A.: Contributo alla conoscenza della torsione dell'omento. Arch. ital. di chir. 17:453-471, 1927.
39 MacAuley, C.: Torsion of great omentum; note on 2 cases. Brit. J. Surg. 15:387-359, Jan. 1928.
40 Reid, G. A.: Torsion of portion of omentum. Brit. J. Surg. 15:523, Jan. 1928.
41 Susman, M. P.: Torsion of great omentum. M. J. Australia 2:756-757, Dec. 15, 1928.

MEDICAL HISTORICAL PAGEANT

The historical pageant recently given by second and third year medical students at Tufts Medical School was so interesting and well done that the Boston Medical History Club has arranged for a public performance, to be given at the Boston Medical Library on Monday evening, December 15. The original cast has kindly consented to appear on this occasion and the production will be costumed and staged in the same manner as the original performance.

Nine great physicians are depicted, beginning with Hippocrates and ending with Ehrlich. Dr. A. Warren Stearns will also repeat his impersonation of Dr. Joseph Foster of New Hampshire, a country practitioner of the early 19th Century. Each player is costumed and made up to represent faithfully the character which he portrays and speaks in the original language of the physician whom he represents. The foreign language is followed by a translation and a thumb-nail sketch is given of the importance and place in medicine of the various characters.

The pageant proper will be preceded by a short address by Dr. Charles F. Painter, Professor of History of Medicine at Tufts Medical School, who will speak on the study and importance of medicine.

Following the pageant, there will be an exhibition of the texts of the various authors prepared under the direction of James F. Ballard of the Boston Medical Library. The pageant will be under the direction of Dr. Benjamin Spector, Associate Professor of Anatomy at Tufts Medical School who was responsible for the original production.

The program will begin promptly at 8 o'clock and a cordial invitation to attend is extended to the medical profession and medical students.

MORTALITY RATES

The Department of Commerce reports telegraphic returns from 77 cities with a total population of thirty-four million for the week ending November 22, indicating a mortality rate of 11.8 as against a rate of 11.7 for the corresponding week of last year. The highest rate (20.9) appears for Nashville, Tenn., and the lowest (6.2) for Grand Rapids, Mich. The highest infant mortality rate (20.4) appears for Nashville, Tenn., and the lowest for New Bedford, Mass., which reports no infant mortality.

The annual rate for 77 cities is 11.9 for the forty-seven weeks of 1930, as against a rate of 12.6 for the corresponding weeks of 1929.

SYMPOSIUM ON NURSING

THE Committee on Social Meetings of the Boston Medical Library felt that the medical profession as a whole knew too little about the nursing problems in America as they existed. Therefore, they arranged a symposium on that subject for the combined meeting of the Suffolk District Medical Society and the Boston Medical Library on January 29, 1930.

The following papers* were read and discussed. It is our hope that many of the physicians and nurses in New England who were unable to attend this meeting will read these papers and give them careful thought. Surely only by real understanding of the situation and intelligent planning for the future can we hope to have a continuance of good nursing and an assurance that the nurses themselves will be safeguarded and the profession continued at its past high level.

For the Committee,
HILBERT F. DAY.

*Burgess, Howland and Rushmore.

THE NURSING SITUATION†

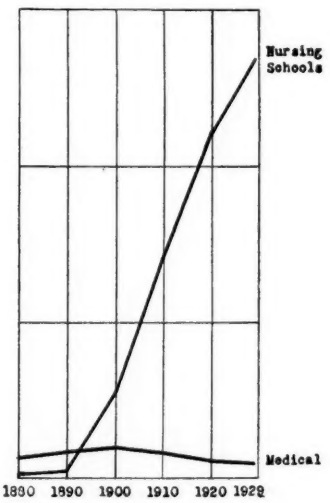
BY MAY AYRES BURGESS, PH.D††

THE Committee on the Grading of Nursing Schools is studying the nursing problem. The Committee is a non-partisan organization; it is not designed to forward the special interests of any single group. It is a coöperative national committee, composed of men and women who were either nominated by one of the national hospital, medical, nursing, or public health organizations, or were selected from professional or educational groups and the general public to represent the patient. The purpose of the Committee is "to study ways and means for insuring an ample supply of nursing service, of whatever type and quality is needed for adequate care of the patient, at a price within his reach".

NURSING SCHOOLS VS. MEDICAL SCHOOLS

The Committee has found it instructive to trace the differences between nursing education and medical education in this country. Medical schools exist for the purpose of preparing students for the work which they will do after graduation. The people who control the schools are chiefly concerned with educational problems, and the medical profession keeps a close guiding hand upon its own educational policies. Nursing schools, on the other hand, do not exist primarily in order to prepare young women for the work which they will do after graduation; and they are not controlled by people who are primarily interested in education. Schools of nursing are conducted by hospitals not, usually, to prepare graduate nurses, but rather to secure student nurses for work within the hospital. The primary aim of the hospital is not education, it is the care of patients; and the education of student nurses is fostered only in so far as it contributes towards this main interest of the hospital.

Because of these essential differences, there is an extraordinary contrast in the history of nursing and that of medical schools during the past fifty years. In 1880 there were 100 medical schools in the United States. In 1890 there were 133; and in 1900 there were 160. Shortly after that time the medical profession secured active control over the education of its members, with the result that the numbers of schools steadily decreased. In 1910 there were 131 medical schools; in 1920 there were 85; and in 1929 there were 76. Nursing schools show a totally different picture. In 1880 there were 15 nursing schools in the entire country; in 1890 there were 35; in 1900, 432; in 1910, 1129; in 1920, 1775; and in 1929 there were 2205. There are 29 times as many nursing schools as there are medical schools at the present time.



	1880	1890	1900	1910	1920	1929
Medical	100	133	160	131	85	76
Nursing	15	35	432	1129	1775	2205

CHART I

Medical and nursing schools in the United States at 10-year periods.

The numbers of graduates from these schools have increased proportionately. In medical education the annual graduating class has increased during the past 50 years from 3,241 to 4,446. In nursing education the corresponding

†Read before the combined meeting of the Boston Medical Library and Suffolk District Medical Society, Boston, January 29, 1930.

††Burgess—Director, Committee on the Grading of Nursing Schools. For record and address of author see "This Week's Issue", page 1219.

increase is from 157 to 25,300. Physicians control medical education. They are able to limit entrance to the profession to those who are properly prepared for professional service, and they are able to determine how many new graduates shall be admitted to their profession each year. Nurses are not in control of nursing education. They have no power to insist upon proper preparation or proper education for the women who are admitted to the nursing profession, nor can they at the present time greatly influence the numbers of students who will be graduated each year.

In 1929, 25,300 young women entered nursing. While many of these young women will marry within the next two or three years, so many of them will remain in the profession all their lives that for the entire group there is an average expectation of professional life of 17 years. For each nurse who drops out early, there is another who will stay, year after year, until she is forced out through old age or physical incapacity. Of the new graduates, probably something in the neighborhood of 18,000 will go into private duty. Next year there will be another crop of graduates, in all probability larger than this year's. The year after that there will be still another. Every year the great proportion of these women will go into private duty.

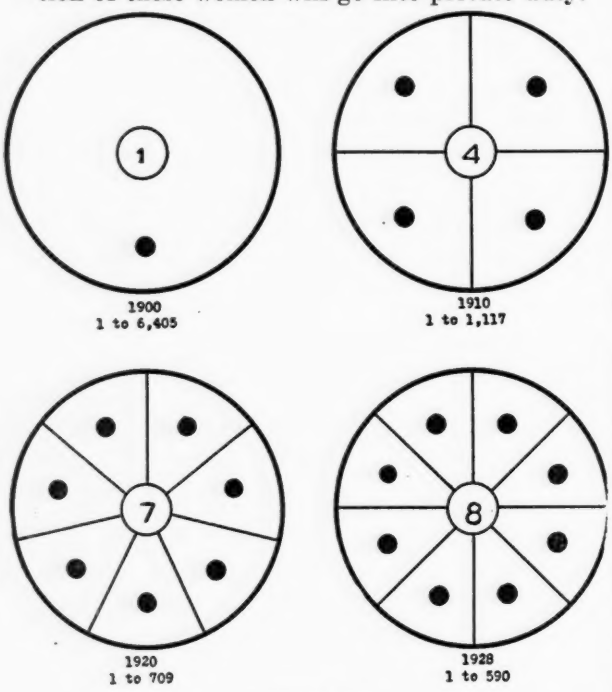


CHART II.

Nurses per Population. Each circle represents 5,000 people. The black dots in each circle represent the average number of graduate nurses in active practice for each 5,000 people in the United States in that year.

TOO MANY GRADUATES

These facts are causing the Grading Committee grave concern. It is evident that already in most of the cities in the country there is unemployment among private duty nurses. Each year this unemployment becomes more serious. Something needs to be done.

The nursing profession is growing far more rapidly, comparatively, than is the general population. At the same time, the relative amount of bedside nursing which patients need seems to be growing less. Physicians are learning how to keep their patients well. Patients are being taught to seek medical advice early. There are few physicians whose sick-in-bed patients outnumber their ambulatory patients. When patients are ill, there are fewer six-week cases. The old typhoid cases, for example, which kept many nurses busy for weeks during the summer and fall are becoming rare.

Moreover, physicians are teaching their patients to use the hospitals freely for serious illnesses. More and more, physicians are sending their patients into the hospital, but this does not mean that these patients will receive nursing care from graduate nurses. Most hospital nursing is done by student nurses. We have, then, one of those vicious circles which so often becomes established in our economic life. Physicians send their patients into the hospitals. The hospitals build new wings to accommodate the new patients. Because they have built new wings, they enlarge the entering classes of student nurses in order to provide nursing for the additional beds. And because they have enlarged their entering classes, shortly thereafter they are increasing the numbers of graduates whom they are sending out from their schools. But these graduates coming out, in larger and larger numbers, find fewer and fewer patients available for nursing care, because the patients are going into the hospitals and being cared for by students.

Because most hospital nursing is done by students, and because there are as yet only a few unfilled positions in public health (which calls for women with special training not usually provided in hospital nursing schools) most of these enormous classes of new graduates must go into private duty. The physicians cannot possibly provide enough "specialling" to keep all these private duty nurses busy. Many of their patients cannot afford to pay the costs of having special nurses. Physicians often urge that hospitals should provide such nursing care as patients need. They do not want to urge their patients to employ private duty nurses merely because the hospitals are understaffed, or the graduate nurses need work. It is the patient who must be given primary consideration.

The physician usually has a comparatively small list of private duty nurses whom he has known and found satisfactory, and whom he is willing to recommend to his patients. He uses women on this list over and over, but he does not, and usually cannot properly, increase his list very rapidly from year to year. The result is that there are in Boston, and in most of the other large and medium-sized cities at the pres-

ent time, many hundreds of nurses who, sometimes for weeks at a time, do not get enough to eat.

Many competent nurses are unable to find enough work through large parts of the year to keep them reasonably busy; but, in addition, there are many other nurses who are not competent; who throng the registries, waiting for cases, and yet are nearly unemployable. The nursing profession is not responsible for these women. They were admitted to schools of nursing by hospitals. Many of them were never of a type which should have been admitted in the first place. Others may have had a reasonably fair background of breeding and education, but went to schools which did not give thorough nursing training, and, therefore, could not possibly equip them for competent work after graduation.

INTELLIGENCE AND EDUCATION

Physicians often testify that many of the young women now coming into the nursing profession are inferior in quality to those whom they knew thirty years ago. "They are too young, too immature. They lack the professional viewpoint. They are not so intelligent as the nurses we used to know thirty years ago." It is difficult to measure the intelligence of graduates coming into any given profession. Most people, however, would probably agree that every intelligent person wants an education and gets as much of an education as is reasonably within his reach. We can say then that intelligence may be indirectly measured by the amount of schooling people manage to secure, *compared with what other people around them are securing.* In 1890, 32 per cent. of the nurses coming into the profession were high school graduates, but among all the 18-year-old girls in the United States at that time only 2 per cent. were high school graduates. The educational standards of the nursing profession were as high above those of the general female population, in 1890, as 32 per cent. is above 2 per cent.

The accompanying diagram attempts to trace the relation of educational standards among incoming nurses to those of all 18-year-old girls in the general population, from 1890 to the present time. The top line represents the per cent. of nurses coming into the profession each year who were high school graduates, and the bottom line represents the percentage, each year, of all 18-year-old girls in the United States who were high school graduates. The two lines begin at 1890, with 32 per cent. high school graduates for the nurses and only two per cent. for 18-year-old girls in general.

This is an unusual type of diagram, because it is so devised as to picture the *rate* at which things are changing. If the 18-year-old girl line had remained steadily at 2 per cent., the line would lie horizontal—straight across the page. If the rate increases the line climbs upward. If it decreases, the line drops downward. If educational standards among nurses had been rising at exactly the same rate as educational standards among the rank and file of women, the two lines would be exactly parallel.

The diagram shows that nursing standards have been rising slowly but steadily, year by year; but for the general population they have fairly leaped upward. In the old days to say

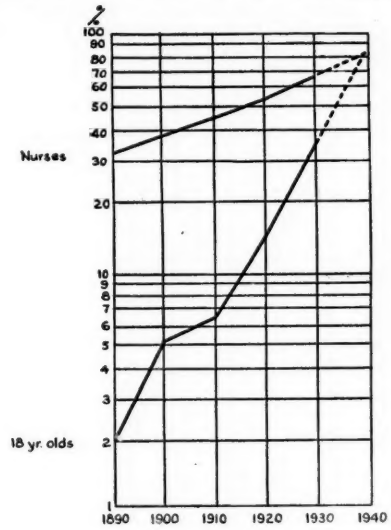


CHART III.

Per cent. of nurses entering the profession each year who were high school graduates compared with per cent. which all girls graduating from high school in that year were of all 18-year-old girls in the United States. (Logarithmic diagram, representing rates of change.)

that a girl was a high school graduate was the same thing as saying that she was far above the rank and file. Today it means that she is only slightly above.

Moreover, it must be remembered that the lower line represents all 18-year-old girls in the United States. It includes natives and immigrants, whites and blacks, reds and yellows, of all kinds and social conditions. Education is no longer the prerogative of the fortunate few. It is rapidly becoming a national characteristic. The dotted lines in the diagram show what would happen if the present rates of growth were to continue without change. In just about ten years the lines would cross.

The United States has suddenly become a nation of high school graduates. High school graduation is beginning to be regarded today as one of the accepted requirements, much as graduation from grammar school was regarded ten or fifteen years ago. In some parts of the country high school graduation is so much taken for granted that it is beginning to be difficult to find any considerable body of young women who have reached the age of eighteen and are not high school graduates.

This is reflected in certain states by the educational standards in schools of nursing. In Minnesota, for example, where until recently the state law has required only eighth grade

education for entrance to schools of nursing, 91 per cent. of all of the students actually in the schools are high school graduates. Nebraska and Oregon lead all the states in the country with 92 per cent. In other words, high school education has become so universal in these states that the applicants for schools of nursing are apt to be high school graduates whether the law requires it or not. Not all the states make so good a record, however. In Massachusetts 71 per cent. of the students are high school graduates, and 29 per cent. are not. In New Hampshire the percentage drops to 52, in New York and New Jersey to 61 and 46 respectively. For the country as a whole 73 per cent. of the students are high school graduates and 27 per cent. are not.

If a young woman wants to be a stenographer in a business house, she stands little chance of success unless she has at least finished high school. In many of the large department stores there are waiting lists of college graduates who are eagerly taking over the field of retail selling. The young woman of today who wants to be self-supporting without high school education cannot be a school teacher, or a private secretary, and she may even have difficulty in securing a position as salesgirl in a modern department store. Yet, of the 25,300 graduates from schools of nursing, approximately 7,600, or 30%, were admitted to training schools without having a full high school preparation. There are still schools of nursing in which the educational standards are so low that the schools are pouring into the nursing profession young women who could not readily support themselves in most of the recognized fields of female employment. In other words, there still exist schools in which the requirements for entering the nursing profession are not so high as those for entering the commercial or business world. In such schools nurses are being placed at about the same level as factory workers.

These percentages for entire states do not tell the whole story, because records for some of the poorer schools are covered by those of the better schools. Out of 1,389 schools recently reporting on this point to the Grading Committee, only 112 reported that all their students were high school graduates. In half the nursing schools in this country one out of every three students has been admitted to training for the nursing profession without ever having finished high school. In some schools every student is of less than high school grade.

Educational entrance requirements are not the only criteria for good schools. Many schools are so small that they cannot possibly hope to give adequate instruction. There are 60 schools in which the entire student body numbers nine or less, and a little over 300 schools in which the entire student body is composed of nineteen individuals, or less.

NOT REAL SCHOOLS

Not only are many of the schools too small to make adequate instruction feasible, but all too frequently the hospitals themselves are too small to be effective as teaching centers. There are 73 schools conducted by hospitals which have a daily average of not more than 19 patients in the entire hospital. The American Red Cross Nursing Service is a volunteer service in which nurses are enrolled in order that they may be called upon for emergency work in times of national distress. The nursing profession is proud of its service record with the Red Cross, and young women of true professional spirit who have had the proper preparation are usually eager to be enrolled as Red Cross nurses. In addition to other requirements which nurses must meet if they are to be enrolled in this service, the Red Cross has set a minimum of 50 patients as a daily average for any approved hospital training school. It is a significant commentary upon present standards in nursing education when we discover that 363 schools of the 1,229 reporting on this matter to the Grading Committee, or 30 per cent., are connected with hospitals that are so small that their graduates are automatically rendered ineligible to the Red Cross Nursing Service.

Not only are many schools too small, and the number of patients in the hospital too few, to offer any kind of adequate clinical background, but all too often the experience given by the hospital is in one or two fields, primarily surgical, and the qualifications of the nurses who teach the students are far from adequate. Yet the graduates of these places come out year after year to swell the ranks of the unemployed.

This is not to say that all small schools are poor ones. There are some small schools, which, by careful management, are able to give excellent preparation for practical nursing; while at the other end of the scale are some very large schools which, although well supplied with clinical material, and enrolling adequate numbers of students, fail rather seriously to choose their students with sufficient care or to give them the kinds of experience which will make them good nurses after graduation. In other words, not all "nursing schools" are educational institutions, nor are all graduates from these schools properly educated nurses, equipped to render skilful and intelligent service in the nursing care of patients.

NOW TOO MANY NURSES

There is unemployment in nursing. With the exception of periods of epidemic, there has apparently been unemployment in nursing every year for the past five years, and every year it is getting worse. Nursing has become an overcrowded profession.

The nurse out of work is not an obvious person. Hospitals, physicians, and patients who find it difficult to secure the right nurse to do a

particular piece of work are naturally skeptical when told that there are too many nurses. They see their own lack of properly qualified applicants, but they do not see the thousands of nurses with hopelessly inadequate incomes, not a few of whom are being supported by relatives or charity because they cannot get work enough to pay their way. The individual physician may, it is true, have an occasional heart-breaking interview with a nurse who was once "on his list," and is now begging to be taken back; but for the most part the unwanted nurse sinks into the background and is scarcely seen; while the unfilled position for which a nurse cannot be secured looms large.

It is difficult to realize how fast nursing is actually growing. There are many places where a shortage of nurses is so apparent that it is difficult for people to understand the crowding of nurses in other fields. The situation would become more obvious if we were able to divide the population of the United States into communities of, say, 5,000 each; and then, instead of allowing the active graduate nurses to flock into the larger cities, we were to distribute them evenly throughout the general population, so that every 5,000 people had an equal supply of nurses. Had we been able to make so nice a theoretical adjustment, we should have had, in 1900, one active graduate nurse for each 5,000 people in the United States. (Actually there was even a little less than that. There was one graduate nurse to a little over 6,000 people.) By 1910, for the same community of 5,000, three other nurses had been added, and the 5,000 potential patients had to be divided among the four. Each nurse, in other words, had to draw her patients from a population of a little over a thousand. By 1920 there were seven nurses to each 5,000 people, and in 1928, there were a little over eight. Since 1910 the number of nurses in proportion to the population has more than doubled. The supply of graduate nurses is growing far faster than the supply of patients, and every nurse who is added narrows the field for all the others.

There are more nurses than the population can support. At the same time, in many medical specialties there is a serious lack of competently prepared nurses, because the hospital training schools have not devoted the necessary attention to equipping students for skilled nursing service in those particular fields. This is probably because these hospitals do not cover the clinical services in which such specialized training could be given. There are very few hospital training schools which give special preparation in public health nursing, or in hospital administration, in nursing administration, or in nursing education. Consequently, when there are vacancies in these fields, in spite of the overproduction of nurses in general and the truly serious amount of chronic unemployment, it is nevertheless difficult to find competent women for these unfilled positions.

The studies of the Grading Committee show so clearly that there can be little doubt as to the facts of the case, that if patients are to be properly served in the future, there must be, first, a reduction in the enormous numbers of students in the schools; second, a far better distribution of the nurses who are already in the profession, so that undernursed parts of the country may be better supplied and overpopulated portions be relieved of their unemployed nursing load; and third, the graduates coming out from the schools should be of high general intelligence and good background, and in addition should have been given special preparation not only for surgical nursing, but for the many other important and often neglected branches of their profession.

The purpose of the Committee on the Grading of Nursing Schools is not to assist nurses in securing more money, shorter hours, and better working conditions, although probably all of these demands are legitimate and should be met. The purpose of the Grading Committee is to discover the facts which bear upon the effectiveness of nursing service from the point of view of the patient who receives and pays for it. It is the hope of the Committee that by bringing these facts to the attention not only of the nursing profession, but of the medical profession, professional educators, hospital administrators, trustees, and patients, swift progress may be made towards discovering "ways and means for providing an ample supply of nursing service, of whatever type and quality is needed for adequate care of the patient, at a price within his reach."

THE HOSPITAL AS A MEANS OF EDUCATING NURSES*

BY JOSEPH B. HOWLAND, M.D.†

I DO not know whether, in assigning me this subject, the Chairman intended to distinguish between the hospital as a means of educating nurses and the hospital as a means of training nurses. It may be said that education and training are synonymous terms. I would distinguish between them. I would say education means systematic instruction and, as applied to nursing, means systematic instruction that covers the fundamental sciences, a knowl-

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edge of which may be needed in any of the fields of nursing. Training implies exercise or practice to gain skill.

The history of trained nursing in the United States is a short one, so short and so familiar to most of us here that I fear I can say little not already known to you.

The first school was established in 1872 in connection with the New England Hospital for Women and Children in Boston and the first graduate of that School is still living†.

The following year, three other training schools came into existence, one in New York, one in New Haven, and the Boston Training School for Nurses. The latter affiliated with the Massachusetts General Hospital and continued as a separate school until 1895, when the hospital took it over. There has recently been published a history of the Massachusetts General Hospital, covering the years from 1872 to 1900. It is interesting to note in it extracts from the annual reports of the Trustees referring to the Training School. At first, the pupils were put on trial in two wards. This was gradually extended until, in 1879, they did the nursing in all but one ward. At first, all references were cautious, then we note faint praise, and, of course, later frank recognition that the services of the pupils were indispensable. For the first thirty years of training schools, progress was slow. Nurses began with day duty covering 15 hours. This was gradually reduced to thirteen hours, and then 12 hour duty day and night was the general practice and continued until a few years ago, when eight hour duty became usual.

In the early years, beside the nursing, the pupils did the work of laundresses, scrub women and seamstresses. Quarters provided for nurses were cheerless and often in close proximity to the wards so that they were seldom out of the hospital atmosphere. There was little systematic instruction.

The superintendent of nurses, without assistants, gave lectures in her spare time, supplemented by lectures from members of the staff, if they did not forget to do so. From early days, it seemed as if physicians were afraid nurses would know too much. It is a wonder that candidates, enough of the right kind, could be found willing to face the long hours and hard work, but found they were, usually without difficulty.

The following is quoted from the report of a Committee appointed by the Trustees of the Massachusetts General Hospital, in 1906, to study the Training School. Two well-known physicians were on this Committee, Drs. Francis B. Harrington and J. C. Mumford.

They say in part, "It has appeared to us that our Training School as it now exists is an outgrowth of conditions; and in a sense, represents a development which has been reached through no systematic program, but through a process of adapting ourselves to circumstances as they have arisen from time to time. Perhaps such a chance method of growth yields the best results, but we may question whether it may not be advisable occasionally to look farther ahead and to formulate some more formative and definite system."

This statement applies to most of our schools today as well as it did in 1906.

Most hospitals have been founded to care for the indigent sick. Training schools were opened not primarily to educate nurses, but to provide the best and the cheapest means of nursing the hospital patients. Notwithstanding this, a good deal of progress has taken place in our nursing schools. We now have class and demonstration rooms, science and cooking laboratories, and since 1915, a more or less standardized curriculum.

Courses and facilities are fairly satisfactory. Not so much can be said of the quality of the teaching. I know of no other field of education where one instructor is expected to cover so many subjects. In our better training schools, it is usual for the instructor to teach four subjects, and more often, one teaches twice or three times that number. Good teaching can be done only by those trained to teach. A fair knowledge of the subject is not sufficient. In our public schools and colleges, one would not tolerate untrained teachers, yet this is the rule in most nursing schools. There is no question but that the hospital is the only place in which nurses may be trained, but we may question whether much of our instruction meets modern educational standards.

There are many physicians who say the nurses are being overeducated; they talk of the supernurse. If such statements were made after a thorough knowledge of the facts, they would be entitled to consideration, but, for the most part, they have been made without a familiarity with the facts. They have done real harm, for they have served to misguide and misinform our hospital trustees.

If one examines schedules in our better training schools, one will find about one class room hour to eight hours of ward duty. This does not, I think, show undue emphasis on theoretical work. Should we not now, as suggested by the Committee to whose report I have referred, look farther ahead and formulate some more definite system?

Hospital trustees feel that the funds entrusted to them must be spent in the care of patients. So far, that spent on training schools has also been in the best interests of the patients in the hospital, but can they, or should they, try to put hospital training schools on a par with the endowed institution founded primarily for the education of women, and do this from funds given to maintain the hospital? There are now many women's colleges throughout the

†This refers to Miss Linda Richards, who has died since this paper was written.

country, not a few of which are particularly interested in giving vocational courses. They are already teaching the very courses we want our nurses to have as a foundation for their professional needs regardless of the particular field they may ultimately choose. Hospitals would thus be relieved of the expense of lodging students before they are ready for ward work. On the other hand, if our nursing schools were put on such an educational basis, there would be some extra expense to the hospital. As matters now stand, in return for board, lodging, uniforms and textbooks, we expect our student nurses to do many things which cannot be considered educational. They must do the nursing job without regard to a balanced course based on their needs.

To give a balanced course in most of our hospitals, we should find that for certain groups of patients, we would have to look beyond the students for some of the nursing. This would mean the employment of graduate nurses for floor duty. In order that our student nurses may get the most out of their ward work, more teaching supervisors should be employed,—another expense. I cannot see that this desirable change can take place until our nursing schools are run much after the fashion of other educational activities; that is, the students would pay moderate tuition fees for their courses, exchange their services for their keep while residing in the hospitals, and have the institution receiving the tuition fees provide salaries for more nurse instructors in our wards.

To summarize,—in my opinion, the better schools provide good instruction in nursing and operating technique and through affiliations, a broad, well-rounded training, but educationally, they are for the most part behind modern standards.

I feel that we must look outside the hospitals for the remedy and that we shall not get very far in this until the public is conscious that money is needed to provide the women's colleges with funds for nursing courses. Considering the strides already made in nurse education, I am sure we may be hopeful of the future.

PUBLIC HEALTH NURSING*

BY STEPHEN RUSHMORE, M.D.†

WHILE I have the floor, I should like to take the opportunity to express my pleasure in hearing Dr. Burgess speak, and also my appreciation of the clarity of exposition which she has employed in the presentation of this subject, which has many dark places on which light should be thrown.

I have been asked to talk about Public Health Nursing, and I have been somewhat puzzled to know what aspect to discuss. I think I shall try to tell something of what it is all about. In considering Public Health Nursing we want to know something about Public Health and naturally ask: What is Public Health?

To this question we do not find a clear-cut, definitive answer. If we try to define Public Health by looking at what Departments of Public Health do in the field, we notice that they deal, in part, with some things that have nothing to do with any sick person. If a dealer in food, a licensed victualler, for example, offers rotten victuals for sale, certainly nobody is sick if no food is eaten, but the Board of Health takes cognizance of this highly improper act on the part of the licensed victualler. So it has to do with potential as well as with actual sickness.

Sometimes potential sickness is associated with actual sickness, as in the case of a contagious disease, and the interest of the Board of Health is quite clear. But in the case of a non-contagious disease like cancer it is not so clear; and if I interpret rightly certain activities in certain quarters, it is not unlikely that Public Health will have precipitated upon it even the problem of heart disease. One thinks of heart disease as an almost perfect example of a disease one might have unto one's self alone. But we seem to be coming to the view that not only does one not live unto one's self alone, or die unto one's self alone, but one cannot even be sick unto one's self alone.

There is the view that private health is my health, and public health is your health. Very absurd that sounds at first, but even this absurdity helps us to clarify our ideas a little because it suggests that there may be no case of actual sickness, or perhaps I should say, no disease that might not, under some circumstances, become a public health problem. We are coming more and more to hold that when we look at medicine, whether we are doctors of public health or doctors of private health, we must take into our view the whole field of medicine, preventive, curative and palliative. The older distinction between public and private medicine is fading, and the newer distinction is becoming more evident, that public medicine involves emphasis on the point of view of the community which contains potential or actual sickness, and that private medicine means emphasis on the point of view of the individual who is actually sick. If, in our thinking or in our practice, we completely forget either, we are bound for disaster. The distinction, then, to keep in mind is a difference in emphasis.

I have taken this much time to try to make

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clear what I think is a valid distinction, because the public health nurse is often in the difficult position of trying to emphasize both points of view. Her problem is to see the individual and the environment, focusing attention on the family and its immediate surroundings as the particular group of conditions most pertinent in her consideration. It is the individual and the family, the individual in the family that she considers.

There is a difficulty if one tries to focus one's eyes on two points; convergent or divergent strabismus may occur. The way of escape is to have quick eyes and eye muscles capable of great celerity of adjustment, and the moral of that, as the Red Queen would say, is that no person should go into public health nursing whose eye muscles show signs of senescence.

In the work of the public health nurse, the approach is often a case of sickness; some individual is frankly sick and needs nursing. Often it is a child, who, though not frankly sick, needs some attention, according to our rising standards of child welfare. Most important occasion of all is something connected with the incident of maternity. Care may be given before, during or after childbirth, and it is in maternity cases that the public health nurse finds her greatest opportunity. There, too, she is assisted by the powerful interest of the mother in the unborn child. There comes first the instruction of the mother in general hygiene, leading to the question of proper nourishment for the mother. This leads, naturally, to the problems of nutrition for the family; and this opens up the problem of the family budget and household economics. There may be opportunity for mental hygiene, and perhaps in time the nurse becomes aware of problems of social hygiene in the family.

It is not that the public health nurse knows how to deal with all these problems. But if they are present as factors in the whole situation, she becomes aware of them and may be able to bring in the aid of experts in each field.

Now, neither the public health doctor nor the private health doctor (and the nurse should always be working under the direction of one or the other) is in a position to find out and deal with some of the problems I have mentioned. Yet it may well be, and sometimes actually is, of the utmost importance for the welfare of the expectant mother and for her child that they be recognized and dealt with adequately.

Who are the women trained to do this kind of work and how are they trained? As a rule they are just nurses who are trained in the field. In general, the hospitals, though they are aware through their social service departments that the problems they meet within their walls are intimately connected with conditions without their walls, are not in a position to do anything. The training of the nurse is, primarily, to get done a certain amount of hospital nursing. To have the pupil nurses become familiar with conditions in which the patients live at home would be an expense, unjustifiable from the point of view of the hospital, that fixes its eyes on the patient only during the patient's stay in the hospital.

One finds a few schools of public health nursing. There is one in Boston, which deserves great credit for what it has done with the limitations placed upon it by inadequate resources. It is to be noted that, in general, schools of public health nursing are not connected with schools of public health. Perhaps this would imply a degree of logicality too great to be expected in educational procedure. But if reports are true, we may expect to see developed soon such a school or department of public health nursing in connection with a university department of public health in New Haven, where, in recent years, we have seen started a number of educational experiments which are unusual, not to say bizarre, according to the standards of less emancipated communities.

In the development of the public health movement, in which the nurse has played such an important part, it was to be expected that certain dangers would become evident. It is true that prevention of disease has been one of the factors working toward the socialization of medicine, of which sometimes we are very much afraid. By some of our charitable and philanthropic activities we seem to have undermined the independence of those whom we are trying to help. My experience with public health nursing is that here this danger is very slight, and I think it is fair to say that whatever the hazards from public health nursing may prove to be, they will not be the perils of the dole.

GORGAS MEMORIAL ESSAY CONTEST

The second annual essay contest conducted by the Gorgas Memorial Institute was launched during the 1929-30 school year. It was nation-wide in its scope, and was participated in by many thousand students in 42 states. The subject was "The Gorgas Memorial; Its Relation to Personal Health and the Periodic Health Examination."

The presentation ceremony was held at 12:45, noon, Monday, May 12, at the Executive Offices, White House, Washington, D. C. President Herbert Hoover made the award in the presence of a distinguished company of guests.

THIRD ANNUAL GORGAS MEMORIAL ESSAY CONTEST

Launched December 8, 1930. Open to High School Students in Junior and Senior Classes.

Subject: "Keeping Fit: The Gorgas Program of Personal Health."

National prizes: $750.00, $250.00, and $100.00 in cash.

State prizes: $20.00 each, in cash.

High School prizes: Bronze Gorgas medallion.

Donor of Prizes:

Mr. Charles R. Walgreen, Chicago, Illinois.

Sponsored by Gorgas Memorial Institute, Washington, D. C.

AUTO BLOOD TRANSFUSION

BY GEORGE ELLIOTT MAY, M.D.†

ALTHOUGH not at all a new procedure, auto blood transfusion still seems unknown, or at least quite unappreciated by many of the profession. Various terms such as "blood reinfusion", "blood replacement", and "auto transfusion" have been used to describe the process of removing blood extravasated into the peritoneal cavity and replacing it into the patient's circulation. It seems, however, that the term "auto blood transfusion" used by Dr. L. K. P. Farrar[7] is the most accurate and descriptive.

It has been frequently commented on by various authors that blood in the peritoneal cavity coagulates very slowly and may be used after a considerable time. Such blood has been examined bacteriologically and found sterile. The red cells are, in cases of recent hemorrhage, intact and uninjured.

A patient's own blood has been secured from many sources and given in many ways and into many parts of the patient's anatomy. Blood has been collected from that lost at the time of amputations, from war wounds, from intracranial operations, from the abdominal cavity in cases of ruptured spleens, extrauterine pregnancies and other visceral trauma. It has been squeezed out of the placenta after delivery. It has been secured by letting it flow into sterile basins, squeezing it out of sponges, scooping it up in cups, and by the use of the suction apparatus. It has been given subcutaneously, intramuscularly, intravenously and by rectum. It has been left in the peritoneal cavity for absorption there.

While there is some evidence that British surgeons in India, some sixty-five years ago, had used auto blood transfusion in cases of ruptured spleens, articles on this subject did not begin to reappear in the journals until 1914. At this time Johannes Thies of Leipzig successfully reinjected the patient's own blood in three cases of ruptured extrauterine pregnancy and published his results. In 1918-19 Lichtenstein, also of Leipzig, reported thirty-nine similar successful cases. In 1923 L. E. Burch[2] summarized 164 cases, all that had been reported in European literature since 1914, and noted that all but four of these reinfusions had been done in Germany. There were only two deaths in this series, one from an obvious technical error and one from hemoglobinuria. Hempel[8], in 1925, reported 26 cases of ruptured ectopics reinfused with success, although in one case there occurred a transient hemoglobinuria, which indicated the danger of using old, partially hemolyzed blood.

In this country the first article was published by White in 1920. In 1923 Burch[2] reported several cases of his own and included the cases mentioned above. In 1925 Davis and Cushing[6] reported favorably on their experiences with blood replacement during or after major intracranial operations. Since then there have been only sporadic cases reported here until 1929, when Dr. Farrar[7] published an extensive article and reported twelve of her own cases. In these cases the blood was collected during the course of fibroid operations and the amounts reinfused varied from 25 to 500 cc. There were no fatalities and only one citrate reaction in her series. As a means of avoiding such reactions Dr. Farrar recommends that at least five times as much normal saline solution as 2% citrate solution be used.

There is no doubt that the use of auto blood transfusion in extreme cases of ruptured extrauterine pregnancy is of inestimable value. Furthermore, in the absence of suitable donors, it is frequently a life-saving measure, and being so, its value should be more generally realized and it should come into much more common use.

Contraindications to the use of intra-abdominal blood are few. Obviously, in cases where there is frank intraperitoneal infection, the danger of septicemia is too great to risk using such contaminated blood. However, the presence of an old, chronic salpingitis, the frequent precursor of ectopic pregnancy, does not seem to contaminate the blood. Furthermore, where the transfusion is actually a life-saving necessity, the presence of mild or potential peritoneal infections can be ignored, as is evident from one of the cases to be presented later. Stagnant old blood, such as is found in cases of old tubal abortion where the bleeding has occurred over a period of days or weeks, should not be used. Again, however, in cases of ruptured ectopic pregnancies we usually find an admixture of fresh and old blood, due to the fact that there is usually more or less leakage for some days before actual rupture takes place. In these cases the proportion of old to fresh blood is very small and danger is probably nil, although there have been several mild and one fatal case of hemoglobinuria reported, presumably from using too much old laked blood.

The necessary apparatus for collecting the blood is simple. All that needs be added to the laparotomy kit is a graduate beaker, a stirring rod, a funnel, two cups of about 100 cc. capacity and two 50 cc. ampoules of 2% sodium citrate solution. A suction apparatus is desirable but unnecessary. For reinfusing the blood the gravity method is preferable to the pressure. This is for two reasons; first, because in these cases we are giving a large amount of intravenous fluid and by forcing it in under pressure we run the

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risk of overloading the right side of the heart; and second, because in these cases in extremis we usually start intravenous saline at the same time as the operation and it is easier to add the blood as we get it to the gravity flask than it is to a pressure system.

In citrating the blood 10 cc. of 2% sodium citrate solution are used for each 90 cc. of blood. It has been demonstrated that as much as 5 grams of sodium citrate may be given a patient at one time with impunity. Hence, in transfusing 500 to 1500 cc. of blood, the amount of citrate given would only be between 1 and 3 grams or well under the toxic dose.

The abdomen is opened with the patient lying flat rather than in the usual Trendelenburg position. This facilitates collecting the blood by preventing its all flowing into the upper abdomen. A small incision is made in the peritoneum and the peritoneal edges are caught in snaps and held up to prevent, if possible, the loss of blood that will tend to well up. By pressing the cup against one edge of the incision and raising the other edge in the snaps we are able to divert a considerable amount of blood into the cup. Blood thus secured is quickly transferred to the graduate containing the citrate. This is held and stirred constantly by the nurse. A better flow of blood may next be obtained by applying pressure to the sides of the abdomen. After the first excess of blood has been secured, the peritoneal incision is enlarged and the pelvis quickly explored. The involved tube is brought up into the incision and bleeding controlled by hemostats. The hemorrhage stopped, the incision is widely retracted by the assistant and the remaining free blood is bailed out of the abdomen and cul de sac with the cups. The citrated blood is now added to the saline already running into the patient's vein. This is done by filtering it through 15-20 layers of gauze in the funnel into the gravity flask.

Two case reports are now presented:

CASE 1. Miss L. R., a 24-year-old nullipara, entered the Minneapolis General Hospital, on April 21, in moderate shock. Her last normal period had occurred seven weeks previous. Four days before admission the patient had begun to bleed slightly and this had continued. The flow was dark and there were occasional small clots. During the past two days there had been occasional twinges of pain in the left lower quadrant. Two hours before admission the patient had a severe pain all over the lower abdomen and had fainted. On admission the patient was cold and clammy. Her pulse was 140 and thin. Respirations 26 and temperature 97.6 B.P 90/50. Hemoglobin 60 and white blood count 12,500. Physical examination revealed a typical doughy abdomen, diffusely tender. Pelvic examination showed tender boggy vaults and a slightly enlarged anterior uterus. Diagnosis of a ruptured tubal pregnancy was made and the patient prepared for operation. While the patient was not in extremis, her condition warranted transfusion and in the absence of compatible donors an auto blood transfusion was decided upon. At laparotomy a left tubal abortion was found and a left salpingectomy was done. Previous to this 600 cc. of intra-abdominal blood were removed and transfused in the above described method. The patient had no transfusion reaction and made an uneventful afebrile recovery.

CASE 2. Mrs. M. W., a 35-year-old secundipara, entered the Boston City Hospital, on June 14, with the following history. Her last normal period had been on April 8. Two weeks after she had passed the time for her May period, she consulted an abortionist and was curetted by him in his office. During the next week she felt perfectly well except for slight bleeding. Then she began to have occasional slight lower abdominal cramps and vomited two or three times. The day before admission she had again visited her abortionist for continued bleeding and had again been curetted. On admission she had a temperature of 100° and a pulse of 90. There was no abdominal tenderness. Vaginal examination revealed a large, boggy uterus, the size of a 6 weeks' pregnancy. The cervix was not patulous and there was a brown, bloody discharge. Both vaults were quite tender but, owing to obesity, no definite masses were made out. Within a few minutes after the examination the patient complained of faintness and shortness of breath but, strangely enough, not of any pain. A diagnosis of a ruptured ectopic pregnancy was made and laparotomy advised.

By the time the usual preparations for operation were made, the patient was absolutely pulseless, pale and dripping with perspiration. No blood pressure could be obtained and marked air hunger was present. At operation over two litres of blood were found in the abdominal cavity from a ruptured left tubal pregnancy. No donor was available. The patient had reached the stage of shock where her respirations consisted only of slight gasps, eight or ten times a minute. Intravenous saline had been started. The bleeding tube had been clamped. From the abdominal cavity 900 cc. of blood were bailed, citrated and filtered into the saline flask. The patient rallied quite promptly and before half the saline and blood had been injected, her pulse became perceptible at the wrist. A left salpingo-oöphorectomy was done and in view of the temperature and curettages, a drain was placed in the cul de sac. After an hour a donor was secured and 500 more cubic centimeters of blood were transfused into the patient. At the end of this transfusion the patient's blood pressure was 100/80 and her pulse was 130 and of fair quality. There was no reaction to the transfusions and the patient made an uneventful convalescence, afebrile after the third day.

REFERENCES

1 Appleby, L. H.: Autotransfusion. Canad. M. A. J. 15:36, 1925.
2 Burch, L. E.: Autotransfusion. Surg. Gynec. Obst. 36:811-814, 1923.
3 Butler, H. B.: Auto-blood-transfusion in two cases of ruptured tubal pregnancy. Brit. M. J. 2:1006, Nov. 30, 1929.
4 Dannheisser, F.: Reinfusion intraabdomineller Blutungen. Zentralbl. f. Chir. 55:2884-2888, Nov. 17, 1928.
5 Davis, M. B.: Report of autotransfusion cases. J. Tennessee M. A. 15:292, Oct. 1922.
6 Davis, L. E. and Cushing, H.: Experiences with blood replacement during or after major intracranial operations. Surg. Gynec. Obst. 40:310, March 1925.
7 Farrar, L. K. P.: Auto blood transfusion in gynecology. Surg. Gynec. Obst 49:454-461, Oct. 1929.
8 Hempel, E.: Ruptured tubal pregnancy and treatment with infusion of own blood. Beitr. z. klin. Chir. 133:367-404, 1925.
9 Lee, Q. B.: Auto-transfusion of blood; report of cases. M. Rec. & Ann. 21:474, Sept. 1927.
10 Love, G. R.: Autotransfusion for hemorrhage. Med. Rec. 99:58, Jan. 8, 1921.
11 Maynard, R. L. and Rees, W. T.: A case of ruptured extrauterine pregnancy treated by autotransfusion. J. A. M. A. 92:1758-1759, May 25, 1929.
12 Newman, H. H.: Auto-transfusion of blood. South. Med. and Surg. 89:701-703, Oct. 1927.
13 Rossi, C.: Reinfusion of extravasated blood. Policlinico (sez. chir.) 31:358-382, July 1924; ab. J. A. M. A. 83: 878, Sept. 13, 1924.
14 Schweitzer, B.: Erfahrungen mit der Eigenblutretransfusion bei Extrauteringraviditaet. München. med. Wchnschr. 68:699, June 1921.
15 Toepler: Ueber Blutreinfusion bei 24 Faellen von Graviditas Extrauterina rupta. Deutsche med. Wchnschr. Vol. XLVIII, p. 92, 1922.

PERFORATION OF CECUM BY FOREIGN BODIES

With a Report of a Case Simulating Appendicitis*

BY PAUL W. VESTAL, M.D.†

PERFORATION of the cecum is not an infrequent occurrence incident to well advanced acute appendicitis where gangrene involves the base of the vermiform appendix. In very rare instances the viscus is perforated by a typhoid ulcer, as reported by Bonnet and Plauchu[1]. The cecum also, of course, is alike vulnerable when the abdomen is perforated by cutting instruments or by firearms in the settlement of altercations during war or peace.

Perforation of the appendix due to such foreign bodies as parasites or fecaliths is a relatively common observation, as is likewise perforation by foreign bodies swallowed by accident or intent, such as pins, nails, shot, fish bones, grain and other articles of an extraneous nature.

At this time only perforations of the cecum by foreign bodies from within will be considered. In contrast with the above-named types, we find that perforation from within is an exceedingly rare occurrence.

Macewen[2] found a perforation of the cecum by a pin which had passed partially through the intestinal wall. Generalized peritonitis was well advanced at the time of admission and the patient died soon after operation. Pike[3] reports a case of an individual, with a low mentality, presenting symptoms of a perforated appendix. At operation he discovered a wire nail measuring three inches in length, transversely placed in the cecum and ascending colon with the sharp end of the nail protruding through the cecum. The nail was extracted, the opening in the bowel closed by inversion sutures, and the patient made a quick recovery.

In reviewing the literature one finds numerous reports of widely varying types of foreign bodies within the cecum which often, apparently, have remained there for some considerable time without having perforated the gut. Rosenstein[4] describes the removal of metallic pieces, some measuring seventeen centimeters in length, from the cecums of patients possessing a voracious appetite for hardware, attributed to mental disorders. However, no perforation resulted from the passage of these relatively long pieces of metal through the digestive tract. Prat[5] reports a number of operations wherein pins were ingeniously removed from the cecum by manipulating them into the lumen of the appendix with subsequent appendectomy, thus eliminating the necessity of opening the bowel. It is of interest to note that the very first recorded account of a diseased appendix (Mestivier) presented a foreign body, a large pin, in its lumen.

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CASE REPORT

A white American female, aged nine years, was admitted to the New Haven Hospital with the diagnosis of acute appendicitis.

A history was given of mild epigastric pain occurring three days before admission. The following day, while picking blackberries, the child experienced severe generalized abdominal pain, with nausea but no vomiting. The family physician prescribed some medicine, the administration of which immediately produced vomiting of a projectile nature. Later in the day a dose of castor oil was retained and gave good results. The pain continued for two days, decreasing considerably just before her arrival at the hospital.

Physical examination disclosed slight tenderness and muscle spasm in the right lower quadrant of the abdomen. An indefinite mass was made out in the region of the appendix. Rectal examination was negative except for slight tenderness on the right side. Temperature 102.6° F.; pulse rate 136 per minute; respirations 22 per minute; blood pressure 130 systolic and 40 diastolic. The blood examination showed: red blood count 3,600,000; hemoglobin 65% (Sahli); white blood count 18,200; polymorphonuclear leukocytes 82%; lymphocytes 14%; large mononuclears 2%; eosinophils 2%. Urinalysis was within the normal limits.

Preoperative Diagnosis: Acute appendicitis with probable perforation and abscess formation.

At operation an abscess was found in the right lower quadrant of the abdomen, from which 50 cc. of bright yellow pus were aspirated. Resting on the floor of the abscess cavity was seen a slender pale yellow piece of material. Upon further exploration this object was found to be an ordinary wooden toothpick, which had perforated the cecum on its anterolateral aspect at a level with, and almost opposite to, the ileocecal valve. The toothpick had passed through the intestinal wall for only part of its length. The perforating end was located in the abscess cavity, while the remaining half was still within the lumen of the bowel and unbroken except for a slight green-stick fracture near its perforating end. The opening in the intestinal wall measured 6 mm. in diameter and showed necrosis around its margins. The perforation was closed by inversion sutures and further reinforced by attaching omentum over the plicated area. The appendix appeared normal except for periappendicitis comparable to the general inflammatory process found in this region. Appendectomy seemed advisable and was done. The incision was closed in layers around Penrose drains.

The patient made a satisfactory recovery, her temperature and the white count of the blood reaching normal on the eighth day after operation. Cultures from the abscess cavity showed a growth of B. coli. The wound was almost healed on the twenty-fifth postoperative day, when the patient was discharged to her home.

After operation the child remembered having swallowed a toothpick, while drinking water, about nine days prior to admission, but thinking nothing of the incident, her parents were not appraised of this seemingly difficult feat.

SUMMARY

1. Perforation of the cecum by foreign bodies from within is a rare observation. Apart from the case reported herewith, only two other perforations of this type are found recorded.

2. Report of a case—perforation of the cecum with symptoms of appendicitis by a common wooden toothpick, in a child nine years of age. At operation the foreign body was removed, the perforation closed, and an appendectomy performed; complete recovery.

In conclusion I wish to thank Dr. Samuel C. Harvey for the privilege of reporting this unusual case.

REFERENCES

1 Bonnet, P. and Plauchu: Perforations larges et multiples du caecum au cours d'une fièvre typhoide ambulatoire. Caeco-typhus. Lyon chir. 26:262-265, Mar.-Apr. 1929.

2 Macewen, J. A. C.: Perforation of the caecum by a pin. Lancet 2:785, Nov. 1, 1919.

3 Pike, J. B.: Foreign body in caecum simulating appendicitis. Brit. M. J. 2:413, Sept. 27, 1919.

4 Rosenstein, P.: Foreign bodies in cecum. Deutsche med. Wchnschr. 47:1099, Sept. 15, 1921.

5 Prat, L.: Extraction through appendix of pin in cecum. J. de chir. 15:624, Feb. 1920.

DOES FOLLOW-UP SOCIAL SERVICE PAY IN A VENEREAL DISEASE CLINIC?*

BY HAROLD L. LELAND, M.D.,† N. A. NELSON, M.D.,† AND ALICE I. GORMAN, R.N.†

THERE is no doubt in the minds of those who are concerned with the management of venereal disease clinics that social service follow-up is an essential part of the clinic procedure. Frequently, however, in attempting to establish this service in communities where it has not existed, it is necessary to convince those who are to provide the necessary funds by demonstrating what social service has accomplished in other places. The best argument is that which is supported by evidence to show what has been accomplished by social service in comparison with what was accomplished without it. Recently an unusual opportunity was presented for making such a comparison at the Lowell, Massachusetts, Venereal Disease Clinic. This clinic had been in operation for more than nine years without social service follow-up. For the past 18 months it has had competent social service. Whether the service has justified its existence is the object of this paper to disclose.

Lowell is a cosmopolitan, textile city of 100,000 population. No accurate estimate can be made of the prevalence of gonorrhea and syphilis in the city, due to the failure of physicians, here as elsewhere, to report their cases. Less than 20 of the 130 or more physicians in the city are reporting. In 1929 the clinic treated 204 patients for gonorrhea and 278 for syphilis. Surveys covering some 18 million people in the United States have shown that 80% of the cases of gonorrhea and 60% of the cases of syphilis under medical care are treated in the offices of private physicians. On that basis, there would have been 1000 cases of gonorrhea and 700 cases of syphilis treated in Lowell last year. Applying the same procedure to the number of new cases seen at the clinic during the year, there should have been reported 500 cases of gonorrhea and 220 cases of syphilis. Actually, 173 cases of gonorrhea and 69 cases of syphilis were reported! (We believe that the above figures are conservative estimates of the prevalence of gonorrhea and syphilis in Lowell, for they do not take into account the large number of cases that are self-treated or which, for other reasons, never come to medical attention.)

It is worth while, as an argument for municipal recognition of the importance of gonorrhea and syphilis as public health problems, to compare their reported and estimated prevalence with the reported prevalence of those communicable diseases which every board of health considers its duty to control. For the year 1929 the following figures are reported for Lowell:

TABLE I

REPORTED CASES OF SOME IMPORTANT COMMUNICABLE DISEASES, LOWELL, 1929

Anterior Poliomyelitis	6	
Typhoid Fever	24	
Diphtheria	65	
Scarlet Fever	169	
Tuberculosis (all forms)	108	
Total	372	
Gonorrhea and Syphilis	242	(actually reported)
	770	(estimated as reportable)
	1700	(estimated as under treatment)

In December, 1919, the Lowell Board of Health, with the assistance of the Massachusetts Department of Public Health, opened the venereal disease clinic. The clinic inherited 3. cases of gonorrhea and syphilis which were being treated at the Lowell Corporation Hospital. By the end of 1920 some 168 cases of syphilis and 189 cases of gonorrhea had been treated at the clinic. In 1920, the staff of the clinic consisted of a part-time clinic chief, a full-time clinic nurse and a part-time male nurse. At the end of 1928 the staff still consisted of a part-time clinic chief (who was more or less regularly assisted by a voluntary assistant), a full-time

*An Analysis of Eighteen Months of Social Service in the Lowell, Massachusetts, Venereal Disease Clinic.

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clinic nurse, a part-time male nurse and a clinic clerk. This almost identical staff in 1928 handled 534 persons who made 5901 visits in comparison with the 413 persons who made 3429 visits in 1920.

In 1928, a study of the needs of the clinic was made by a medical advisory committee, appointed jointly by the Massachusetts Department of Public Health and the Massachusetts Society for Social Hygiene. As a result of this study, and with the approval of the Lowell Board of Health, the Society and the State Department of Public Health agreed to carry the cost, for one year, of necessary additions to the clinic staff and equipment. Except for the employment of a medical social worker, no new departures were made in organization, such other additions as were made being simply to enlarge existing services.

At the end of 1929 the results of the "experiment" were found to be so satisfactory that, since the Lowell Board of Health was then unable to assume the financial burden, it was agreed to continue the project for another year. Now, as the end of 1930 approaches, after 18 months of observation, the Lowell Board of Health plans to take over that part of the work which has been carried by the Society for Social Hygiene.

It is to be noted that the type of social service attempted has not been social case work, although when other problems than venereal disease were discovered, they were referred to coöperating agencies, and not ignored. The primary object of the service, however, has been to keep clinic patients under treatment, secure the examination of other members of their families when indicated, and also of such sources of infection as could be identified. How well the service has succeeded, is revealed in the following analyses.

Table II represents the activity of the clinic in terms of patients treated for gonorrhea. There is little in the record of new admissions during the four years to demonstrate social service activity, since nearly the same number of new patients were admitted each year. There is apparent a steady growth in the number of patients attending the clinic per month and the visits per patient per month keep pace with this increase. The object of social service is to keep patients under treatment and to discover new cases among the relatives and contacts of the patient. Since most of the gonorrhea in the male is in single men, and much of it in the female is in young single girls, there is relatively much less opportunity for discovery of new cases in the patient's family than in the case of syphilis. The latter disease often comes to medical attention after marriage when wives and husbands and children have been infected. Consequently the gonorrhea clinic will be increased only slowly through the efforts of social service while the syphilis clinic should show the effect of the service much more quickly. That it has, is evident from Table III.

In this clinic the effect of social service is more evident (see also below, "Relatives and Contacts Examined") in the sudden increase of new cases from 45 to 90 in 1929 (previous maximum of 56 in 1926). There is evidence that a further increase to 100 new cases in 1930 may be expected if the rate for the first 9 months is maintained. Readmission of old cases previously closed because of lapse of treatment, also increased. Visits per patient per month have continued at their high average of nearly 3. This probably is nearly the maximum attainable since vacations between courses, cases on observation and old cases requiring less regular treatment

TABLE II

THE GONORRHEA CLINIC

Year	1926			1927			1928			1929*			1930* (9 mos.)		
Sex and Total	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
New Cases (Year)	75	22	97	76	29	105	72	36	108	71	38	109	50	34	84
Readmissions (Year)	3	3	6	30	10	40	19	16	35	15	6	21	6	6	12
Active Registration (Month)	34	23	57	38	28	66	38	34	72	44	50	94	39	52	91
Patients Attending (Month)	26	14	40	32	16	48	37	27	64	41	36	77	30	43	73
Visits (Month)	72	43	115	93	50	143	108	80	188	113	111	224	92	113	205
Visits per Patient (Month)	2.8	3.1	2.9	2.9	3.0	3.0	3.0	3.0	3.0	2.8	3.1	2.9	3.0	2.6	2.8
Closed Satisfactorily (Year)	68	30	98	93	31	124	72	36	108	78	51	129	49	36	85

*Social Service Follow-up April 1, 1929 to October 1, 1930.

TABLE III

THE SYPHILIS CLINIC

Year	1926			1927			1928			1929*			1930* (9 mos.)		
Sex and Total	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
New Cases (Year)	38	18	56	30	24	54	30	15	45	52	38	90	35	28	63
Readmissions (Year)	15	8	23	10	10	20	11	9	20	16	17	33	7	4	11
Active Registration (Month)	101	82	183	98	73	171	86	66	152	91	64	155	99	77	176
Patients Attending (Month)	50	42	92	52	40	92	60	50	110	72	50	122	72	63	135
Visits per Month	130	104	234	136	100	236	159	136	295	192	149	341	193	195	388
Visits per Patient (Month)	2.5	2.6	2.6	2.6	2.7	2.7	2.6	2.7	2.7	2.7	3.0	2.8	2.7	3.1	2.9
Closed Satisfactorily (Year)	39	23	62	34	33	67	42	32	74	42	32	74	51	28	79

*Social Service Follow-up April 1, 1929 to October 1, 1930.

naturally reduce the average number of visits per patient per month.

The visits per patient per month in the gonorrhea clinic may, at first glance seem low. The average is about 2.7. But in this clinic, except in very unusual cases, only one visit per week is required of patients with gonorrhea. The turnover is much more rapid than in the syphilis clinic so that a larger proportion of patients are approaching cure and needing less frequent treatment. More patients also are being discharged during the month than from the syphilis clinic. All these factors tend to reduce the number of visits required. It is our belief that since most of the patients who lapse treatment are very quickly returned to the clinic (see Table V), the visits per patient per month very nearly approach the attainable maximum.

TABLE IV

CASES OF GONORRHEA AND SYPHILIS LOST OR REFUSING TO CONTINUE TREATMENT

Year	1926	1927	1928	1929*	1930* (9 mos.)
Total Clinic Registration	445	467	433	476	421
Lost	84	57	41	26	10
Per cent. Lost	18.9	12.2	9.4	5.5	2.4

*Social Service Follow-up April 1, 1929 to October 1, 1930.

Here the record of the clinic has been one of truly remarkable progress even before social service was begun, but the increased rate of improvement during the last two years in spite of the low point to which lost cases already had been reduced, is a real accomplishment. But the important point is the speed with which social service secured the return to treatment of lapsing cases. Unfortunately there are no records of the rate at which cases were returned prior to 1929 but since most of them were followed by letter it is reasonable to presume that there was more delay than there has been since more personal contacts have been made. The success of social service in securing the immediate return of lapsed patients to the clinic is shown in the following two tables:

TABLE V

RETURN OF LAPSED CASES OF GONORRHEA*

	Total Lapses of Treatment	Returned Same Month	Patients Eventually Lost	Per Cent. of Patients Lost
1929 (9 months)	191	138 (72.2%)	11	5.2
1930 (9 months)	205	196 (95.6%)	7	3.6

*Include return to treatment in other clinics or with private physicians.

TABLE VI

RETURN OF LAPSED CASES OF SYPHILIS*

	Total Lapses of Treatment	Returned Same Month	Patients Eventually Lost	Per Cent. of Patients Lost
1929 (9 months)	189	146 (72.0%)	3	1.1%
1930 (9 months)	227	223 (98.2%)	3	1.2%

*Includes return to treatment in other clinics or with private physicians.

It was stated earlier that there is greater opportunity for the discovery of new cases among the families and contacts of patients with syphilis than among those of patients with gonorrhea. The following table demonstrates that fact. (Since no records had been kept prior to April 1, 1929, of families and contacts examined, it was necessary to search the individual case records six months prior to the beginning of social service for this information in order that the comparison might be made.)

TABLE VII

RELATIVES AND OTHER CONTACTS OF PATIENTS EXAMINED*

	Gonorrhea		Syphilis	
	Examination Urged	Examined	Examination Urged	Examined
Six Months Prior to Apr. 1, 1929	No record	16	No record	13
1929 (9 months)	30	18 (60%)	207	97 (47%)
1930 (9 months)	18	12 (67%)	99	82 (83%)

*Does not include sources of infection.

The large number of relatives and contacts of patients with syphilis examined through social service effort represents what may be done by intensive follow-up in comparison with what was accomplished when the only approach was made through the patient when he visited the clinic. Its success is further reflected in the double number of new patients admitted to the syphilis clinic. (See Table III.)

Another important function of social service, neglected in so many clinics, is the attempt to identify and secure the examination of the source of infection. What has been accomplished in the Lowell Clinic is disclosed in Table VIII.

In eighteen months 83 sources of infection of gonorrhea and syphilis were examined (70% of those identified) as compared to 9 examined in the previous six months. A number of remarkable examples which show that search for the source of infection will unearth several cases are on record at the clinic. Three of the most interesting are cited:

CASE I—Female, age 16. Original patient. Referred to clinic because of gonorrhea. She was found to have syphilis also. Social service discovered the following:

1. Source of infection of gonorrhea, male, age 18.
2. Another sexual partner, male, age 19, gonorrhea.
3. Another sexual partner, male, age 20, syphilis.
4. Another sexual partner, male, age 30, gonorrhea.
5. Wife of Number 4, gonorrhea.
6. Patient's four-months old baby, congenital syphilis.
7. Patient's mother, syphilis (Father dead).

Thus through one patient with gonorrhea and syphilis there were discovered three other cases of syphilis and four of gonorrhea. The congenitally syphilitic baby and the wife of one of the patient's sexual partners were innocent victims of the patient's infection.

TABLE VIII

SOURCES OF INFECTION EXAMINED

	Gonorrhea		Syphilis	
	Identified	Examined	Identified	Examined
Six Months Prior to Apr. 1, 1929	No record	8	No record	1
1929 (9 months)	42	27 (64%)	38	30 (80%)
1930 (9 months)	17	13 (76%)	21	13 (62%)

CASE II—Male, age 35. Original patient. Gonorrhea. Social service discovered the following:

1. Source of patient's infection, female, age 30, living with two other single girls in a city 30 miles from Lowell.

2 & 3. Both room mates of Number 1, one age 30 and the other age 32, were also found to have gonorrhea.

4. Male, age 35, source of infection of Number 3, at summer resort 100 miles from Lowell.

Here it was discovered that case Number 4 infected Number 3 who, in turn, infected Number 2 and 1 through the common use by all three of the same douche-nozzle. Case Number 1 then infected the man who was the original patient at the clinic.

CASE III—Three boys under 17 years of age named the same woman as the source of their infection with gonorrhea. Investigation showed that this woman's husband was soliciting "business" among the boys in the neighborhood, for his 74 year old wife! Both husband and wife were sentenced to an indefinite prison sentence. It was learned subsequently that four more boys had been infected by the same woman and were being treated by private physicians.

It is of interest to note the sources of the clinic patients.

TABLE IX

SOURCES OF NEW CLINIC CASES*

Year	1926	1927	1928	1929
Social Worker	—	—	—	130
Board of Health Nurses	7	4	6	5
Patients (Friends and Family)	67	94	88	69
Doctors	63	60	64	54
Hospitals, Clinics, etc.	41	32	35	48
Other Social Agencies	4	8	2	28
Courts, Police, etc.	17	4	22	26
Druggists	2	2	1	3
Miscellaneous	57	12	8	21
Totals	218	216	226	384

*Includes all new admissions whether or not venereal disease was found.

The effectiveness of social service is reflected not only in the 33% of all the new admissions, but in the increased coöperation of other social agencies. It is interesting to note that physicians referred the second highest number of cases to the clinic from 1926 to 1928 and the third highest number in 1929.

Table X shows what became of the cases which were closed by the clinic.

TABLE X

DISPOSITION OF CASES CLOSED BY THE CLINIC

Year	1926	1927	1928	1929
Not venereal disease	80	71	86	87
"Cured"	98	110	82	127
To other institutions	29	33	36	50
To private physicians	17	23	38	28
To the courts	0	0	11	5
Died	5	0	2	0
Lost	84	57	41	26
Total	313	294	296	323

Public clinics are always charged with treating patients who are able to pay a physician. There is no doubt that those clinics which do not have competent social service do treat such cases. It is also true that it is sometimes very difficult to determine the ability of a given patient to pay, and we are of the opinion that sometimes physicians overestimate as well as the clinics underestimate. Indigency is relative so far as treatment of gonorrhea and syphilis is concerned. A patient may well be able to pay for the treatment of an acute disease for he can look forward to normal health in the near future when he can pay installments on the cost of his recent illness. But the constant drain upon income for months and years of treatment is another thing; and if, in addition to his own long, expensive treatment, he has to provide the same care for his wife and perhaps one or more children, it becomes hopeless indeed.

The Lowell Clinic does not profess to be any more than reasonably and humanly able to make the proper decision. That it recognizes its responsibility, however, is indicated by the fact that in 1929 there were 28 cases discharged

from the clinic to 20 different physicians, and 12 sources of infection, discovered by the clinic, went directly to private physicians without ever entering the clinic. In nine months of 1930 there have been 30 cases discharged from the clinic to 21 different physicians and 10 sources of infection and contacts, discovered by the clinic have gone directly to private physicians without being admitted to the clinic. Thus in less than two years 88 cases have reached several Lowell physicians through the efforts of the clinic and 22 of them without ever having been admitted to the clinic.

Social service in the Lowell Venereal Disease Clinic, therefore, has accomplished at least the following:

1. Increased the number of patients regularly under treatment for gonorrhea, especially among women.
2. Doubled the number of new admissions for syphilis.
3. Returned a large number of old cases of syphilis to the clinic for needed further treatment or observation.
4. Maintained the high average of visits per patient in the face of increased clinic registration.
5. Attained the reduction to an almost irreducible minimum of lapsed cases not actually returned to treatment somewhere.
6. Secured the almost immediate return to treatment of 96% of lapsing cases of gonorrhea and 98% of lapsing cases of syphilis.
7. Secured the examination of 66% of the relatives and contacts of patients with gonorrhea requiring examination, and 58.5% of those of patients with syphilis.
8. Secured the examination of 68% of the identified sources of infection of gonorrhea and 74% of the identified sources of infection of syphilis.
9. Accounted for 33% of all the new admissions to the clinic in the first year of social service.
10. Secured the increased coöperation of social agencies in referring cases to the clinic.
11. Raised the Lowell Venereal Disease Clinic to an immeasurable level of value to the community in the control of gonorrhea and syphilis.

Does follow-up social service pay in a venereal disease clinic?

In addition, the clinic has accepted another responsibility which increases its value to the community. With the coöperation of the three Lowell Hospitals it has arranged for the regular attendance at the clinic of student nurses and, when time permits, of house officers. It is generally acknowledged that the nurse's training is incomplete today which has not included instruction in the management and control of gonorrhea and syphilis. And it is only too well-known that there is much room for improvement in the training of medical students in the treatment of these two diseases. That the nurses in training in Lowell Hospitals and the house officers in those institutions should have the benefit of this special training is of advantage both to them and to the communities in which they will eventually continue to practice.

ACKNOWLEDGMENT

Acknowledgment is made to the Massachusetts Department of Public Health, the Massachusetts Society for Social Hygiene and the American Social Hygiene Association for the financial support and assistance in organization which has made social service possible in this clinic. As a result of their interest the clinic now has a part-time clinic chief, a part-time, regularly appointed and paid medical assistant, a part-time male nurse who spends additional time assisting with the follow-up of certain of the male cases, a full-time clinic nurse, a part-time clinic clerk and a full-time medical social worker.

The Lowell Board of Health has, each year, increased its appropriation for clinic purposes and this year plans to take over that part of the work which has been carried by the Social Hygiene Society. The clinic has been moved from its cramped and entirely unsuitable quarters to spacious and more adaptable rooms. Dr. John J. McNamara, Director of Health of Lowell is interested in and energetically working for the development of the clinic services to a degree more in proportion to the public health problem which the control of gonorrhea and syphilis presents. One result of this attention has been the creation of a Lowell Committee on Social Hygiene.

AN ADDITION TO THE BUILDINGS DEVOTED TO THE USES OF DOCTORS IN BOSTON

Ground was broken on December 4 for a Professional Arts Building, designed especially to provide accommodations for physicians, in the rear of the Copley-Plaza Hotel. A large concourse of business and professional men witnessed Mayor Curley operate the steam shovel in the initial excavation in preparation for the foundation.

Following this a breakfast was given by the President of the Corporation at the Copley-Plaza participated in by about one hundred guests.

The building will have twenty stories above the ground and two below and will rise to the height of two hundred and fifty feet.

Previous announcements indicate that in addition to the apartments for physicians and accommodations for the development of laboratories and stores for medical supplies there will be a hospital in the upper part of the building which can be used by patients of the physicians. This will be an important addition to the existing facilities for meeting the demands of the sick.

MEDICAL PROGRESS

PROGRESS IN NEUROLOGY

BY ABRAHAM MYERSON, M.D.*

THE year 1929 was characterized by many neurological publications of value and importance, though no striking and original departure in thought or technique was initiated. However, the sum total of more exact work and more detailed information gives to the contributions of that year a real dignity and validity.

CEREBRAL CIRCULATION

Cerebral circulation was discussed by many authors. Perhaps the most important publication emanated from Boston under the leadership of Stanley Cobb and Harold G. Wolff. Utilizing the method of the cranial window, that is a section of bone removed from the cranium so that the vessels of the meninges may be directly observed, Forbes, Wolff and Cobb (*Am. Journ. Phys.*, Vol. LXXXIX, No. 2, July, 1929) studied cerebral circulation as changed by the action of histamine. Their conclusions are as follows:

"1. Vessels of the brain react to intravenous injection of histamine in a very different manner, depending on whether the animal is under ether or amytal anesthesia.

"2. Under amytal the vessels of the brain dilate (following intravenous injection of histamine) and the cerebrospinal fluid pressure rises. These same results occur after small doses of histamine in non-anesthetized man.

"3. Under ether the vessels of the brain are already dilated, and little if any further dilatation is seen following the intravenous injection of histamine. On the contrary they often become narrower and the cerebrospinal fluid pressure falls.

"4. Local application of histamine to the surface of the brain always results in dilatation of the pial vessels, without noticeably affecting intracranial or systemic vascular pressures.

"5. Intravenous injection of histamine (in animals under amytal) causes great pial artery dilatation in spite of a coincident fall in systemic arterial pressure.

"6. Chemical changes in the blood may be and often are more powerful than alterations in blood pressure as a means of regulating the caliber of the pial blood vessels in mammals."

In a paper by Talbott, Wolff and Cobb (*Arch. Neur. & Psych.*, May, 1929, Vol. 21, pp. 1102-1106), the whole question of the vasomotor control of the blood vessels of the brain is taken up. There are two schools of thought in respect to this, one stating that the blood vessels of the brain have no sympathetic regulation, and the other, which is notably that of the authors cited, that the arteries of the brain respond by a change in diameter to the stimulation of the vasomotor nerves. By cutting one sympathetic cervical nerve, these authors found, by carefully injecting the vessels of the head and brain with a 2 per cent. aqueous solution of Berlin blue, that an increase in the capillary bed of the homolateral cerebral hemisphere was caused; thus indicating sympathetic control of the capillaries of the brain.

Wolff and Blumgart (*Arch. Neur. & Psych.*, April, 1929, Vol. 21, pp. 795-804) studying the rapidity of the intracranial circulation by a method evolved by one of the two authors, conclude that the two factors which keep constant the internal environment of the brain are the variations in the systemic arterial pressure and the diameter of the cerebral blood vessels, regulating between them the velocity and volume of the intracranial blood flow.

Kinnier Wilson (*Brit. M. J.*, Mar. 16, 1929), however, is skeptical about angiospasm as a common cause of transient attacks of hemiplegia and other cerebral symptoms. He puts forth the hypothesis of transient ischemia causing temporary neurological disorders, such as epilepsy and hemiplegia, due to degeneration of the vessel wall and transient reduction of general blood pressure rather than direct vasomotor spasm.

SLEEP

The importance of sleep and disorders of sleep have not been sufficiently recognized by adequate scientific work. To the reviewer, the disorders of sleep are perhaps the central difficulty in many of the common ills of mankind, especially the neuroses of fatigue and in certain of the psychoses, mainly manic depressive psychosis. Just what sleep is in a physiological sense has received varied explanations from the withdrawal of neurons, the slowing down of intracranial circulation, to the poisoning by some toxin of fatigue.

In a comprehensive, though short, article by Adolph Friedman (*Deutsch. Med. Woch.*, 55, 1, p. 91) , the author takes up the question of sleep and sleep-producing drugs. Apparently the central location of sleep, so far as the brain is concerned, indicates that this phenomenon is an active process, something initiated by mechanisms of a positive type rather than withdrawal of neurons or any negative mechanism. (This the reviewer has long maintained, that sleep is a positive desire, to be compared to the appetite for food and for sex.) The brain localization of the sleep mechanism is somewhere in the vicinity

*Myerson—Professor of Neurology, Tufts College Medical School. For record and address of author see "This Week's Issue", page 1219.

of the third ventricle and the gray matter around the aqueduct of Sylvius and the basal ganglia. The cortex plays some rôle in the mechanism of sleep, perhaps in the sense of Hughlings Jackson, that the letting-go of a higher center releases the activity of the lower centers, which then operate. Friedman has made a special and important study of the operation of sleep remedies. He divides the drugs which produce sleep into two classes, "the representative of one being paraldehyde and the other group, luminal and chloralhydrate". Paraldehyde and urethane produce sleep which closely resembles the normal sleep. The individuals remain "awakable", the after-effects are not serious, and they easily disappear. With luminal and chloralhydrate, there is a "zwangschlaff", a forced, sort of knock-out sleep, from which the patients are not easily aroused. Reflexes are diminished or disappear, and the whole effect resembles a narcosis, so that Friedman labels these two types of sleep, fatigue-sleep, as initiated by paraldehyde, and narcosis sleep, as initiated by chloralhydrate and luminal. The narcosis sleep, if it is continued long enough, may pass over into a fatigue sleep from which the individuals awaken refreshed. The author, therefore, is opposed to the utilization in the lighter neurasthenic sleeplessness of the barbital and luminal groups. He is more in favor of the use, in these cases of paraldehyde, despite its taste and smell, or adalin, sedormide, and bromide derivatives. However, in the sleeplessness which is found in meningitis, encephalitis, and in the psychoses of severe grade, it is necessary to use the narcosis drugs. He gives a very detailed and useful account of the technique to be followed in these cases. The reviewer recommends reading the original article for all interested. Especially does he lay a good deal of stress on what is called continued-sleep, which is being used in Germany at the present time for some of the mental and neurological disorders of severer grade. Here the author utilizes first the narcosis drugs, and then follows these up by alternate use, per rectum, of paraldehyde in sufficient dosage. This author also takes up the disturbance of the acid-base metabolism which takes place in the utilization of these drugs. He is not, however, definite as to exactly what happens, since the whole study of acid-base metabolism is complicated especially by the difficulty of studying it during sleep.

O. Wuth (*Zeits. f. d. ges. neur. u. psych.*, 1929, 118, p. 448) takes up the acid-base metabolism in sleep and by the use of sleep-producing drugs. Unfortunately, this author does not cite his experiments, but makes the very important statement which, if true, merits further study, that by the utilization of luminal, there occurs first an increase of the alkali reserve and an alkalosis of about an hour's duration. This is followed by an acidosis which reaches its high point in about three hours, after which an alkalosis is ushered in which remains for 72 hours. The same phenomenon is observed with the use of amytal and in a general way with the drugs of the barbital series. On the contrary, alcohol and paraldehyde bring about an acidosis with a fall of the alkali reserve which lasts for several hours. The author states also that in normal sleep an acidosis is observed, but in drowsiness or need of sleep ("schlaf bedürfnis") there is no such acidosis, and therefore it does not play a rôle in the initiation of sleep. He concludes that sleep is an active, primitive, periodic, or rhythmic phenomenon to be linked up physiologically with the activity of the brain stem.

This point of view is to some extent corroborated by Bela Hechst (*Arch. f. Psychiat.*, Vol. 87, 1929), who studied sleep disorders and concluded that in order to have a normal periodicity of sleep and waking state, the following structures must be intact—the medial posterior portion of the thalamus; the commissure; the posterior third of the gray matter of the third ventricle; the gray matter surrounding the aqueduct of Sylvius in the region of the anterior quadrigemina. A lesion, even unilateral, of any part of these structures leads to pathologic somnolence.

It is interesting to note that the usual opinion that intracranial conditions are lowered during sleep is rather sharply contradicted by work done on the intracranial pressure during sleep by Lewis Stevenson, B. E. Christensen and S. Bernard Wortis (*Am. J. M. Sc.*, Nov., 1929). They find that the intracranial pressure is increased during sleep; that with drowsy states which are not true sleep, there is a rhythmic increase of the intracranial pressure which is not as high as during sound sleep; that certain drugs which act as sedatives or stimulants, such as morphine and caffeine, respectively cause a rise and a fall in the intracranial pressure.

EPILEPSY AND CONVULSIONS

William G. Lennox and Stanley Cobb (*Am. J. Psychiat.*, Mar., 1929) make the general formulation that acidosis tends to decrease, and alkalosis to increase, seizures. There are various ways in which these changes in the reaction of the blood may be obtained, acidosis by fasting, by ketosis, by the ingestion of acids or acid-forming salts, by vigorous exercises or by inhalation of air containing a high percentage of carbon dioxide. Forced expiration increases the alkalinity of the blood and increases the liability to seizures.

Further increased tension of oxygen in the tissues diminishes and a decreased tension increases the seizures. Acidity of the blood plus increased oxygen go together, as do alkalinity and anoxemia. Correlated with these two factors is that edema of the brain increases attacks and dehydration of the brain decreases attacks.

Utilizing the internal jugular puncture method of Myerson and Halloran*, the authors found an unexpectedly low content of the blood from the internal jugular veins of epileptic patients as compared with the blood from the arm, which suggests a slow flow of blood through the brain. (The reviewer has, however, found the same difference in cases of non-epileptics.)

Edward A. Strecker (*Delaware State M. J.*, Nov., 1929) has laid emphasis on the dehydration treatment of epilepsy. The essentials of this treatment are that after ascertaining the liquid intake and urinary output of the individual and excluding organic disease of the brain, the patients are then placed on a limited intake of fluids, the total consumption being from eight to twenty ounces of liquids a day, depending on the severity of the attacks. Water, milk, tea, coffee, soup, juices, all are limited strictly to make up a sum total as above. To hasten dehydration, magnesium sulphate, given in doses 1½ to 3 oz. of the crystals in water by mouth, is given on alternate days for three doses. There must be constant checking up of urinary output with occasional dry diets until output and intake levels are established. Strecker believes that the attacks diminish in number and severity, and that epilepsy is best controlled by this method. (To the reviewer, this and the other dietary methods for the control of epilepsy are to be adopted with great caution. The limitation of water cannot be without some organic bodily effects if carried on over a long period of time, just as the ketogenic diet has its dangers also.)

Temple Fay (*Am. J. Psychiat.*, Mar., 1929) believes that excessive amounts of subarachnoid fluid accumulate in epilepsy with secondary effect and injury to the brain. Because of his belief that this increase of cerebral or subarachnoid fluid is an etiologic factor, he, together with Strecker, has carried on the dehydration treatment. In other words, Temple Fay's work is the basis for the dehydration treatment.

In an article on the utilization of luminal in epilepsy, Dr. J. M. Kogan and Dr. L. A. Mirelson (*Zeits. f. d. ges. neur. u. psych.*, Vol. 118, 1929, pp. 621-633) deal with certain peculiarities of luminal in epilepsy. They conclude that the therapeutic value of luminal resides in the fact that it shuts off the pathways through the motor centers and, in much lesser degree, lowers the irritability of psychic centers. They believe that the best field for luminal in epilepsy is its utilization in such cases where there are no mental or character changes; that it fails where psychic equivalents or dementing processes are underway. They go further than this and state that in cases where mental changes have taken place, luminal works positive harm to a patient.

In petit mal, they advise a very cautious use of luminal and advise its discontinuance where psychic equivalents are appearing, and when the attacks are becoming more frequent.

Epilepsy, manifesting itself as a result of diseases of the mid-brain centers, is discussed by L. Marchand and A. Courtois (*Rev. Neurol.*, July, 1929) and by Wilder Penfield (*Arch. Neurol. & Psych.*, Aug., 1929). Penfield states that at first there is prodromal restlessness, then a sudden vasodilatation of skin of the neck and face with a rise in blood pressure, with a series of vasomotor signs, such as lacrimation, sweating, salivation, change in pupils, increased pulse, marked slowing of respiration, and occasionally, loss of consciousness. After a short time the blood pressure falls, the pulse slows up, the flushing disappears, and the blood pressure becomes lowered.

In other cases, according to Marchand and Courtois, there is a spasmodic torticollis with the epileptic attacks. Between attacks the patient presents signs of dystonia, with other features related to the basal ganglia.

ARTICLES PRO AND CON THE USE OF LIPIODOL AS A MEANS OF LOCALIZING CORD TUMORS

F. and L. Schönbauer (*Duets. Ztschr. f. Chir.*, Vol. 211, 1928) are rather pessimistic about the use of this method as involving some risk to the patient. Globus and Strauss (*Arch. Neur. & Psych.*, June, 1929) are, on the whole, in favor of the utilization of lipiodol, believing that it is mainly safe and useful. (It may be stated in this connection that, in the neurological clinics in Boston, lipiodol has been used quite constantly with no specially unfavorable sequelae and, in the main, with valuable results.)

ARACHNITIS

A new nosological entity is circumscribed serous spinal meningitis or arachnitis. This condition simulates cord tumor in that the individual develops pain, weakness, and spastic paralysis with diminished sensation. Lumbar puncture usually shows a dynamic block. Lipiodol may be held up at the lesion level. Operation, which is frequently quite successful, shows a sort of cystic collection of fluid in the arachnoid, with the removal of which there is relief of symptoms. Cases of this kind are repeated by several authors—George B. Hassin and Edmund Andrews (*J. A. M. A.*, March 16, 1929), J. A. Barré, R. Leriche and Guillaume (*Rev. Neurol.*, Aug., 1929), and Leriche and Barré (*Rev. Neurol.*, Aug., 1929).

ENCEPHALITIS

It is noteworthy, as Erich Guttmann (*Zeits. f. d. ges. Neur. u. Psych.*, Vol. 118, 1929, pp. 575-596) points out, that encephalitis has to

*This is a method introduced in 1927 whereby by puncturing the internal jugular vein from without, blood is obtained as it comes from the brain and without admixture of other venous blood. By puncturing the carotid and internal jugular vein, one is enabled to compare the blood going to the brain and from the brain, and therefore to study the chemical activities of the brain.

some extent revolutionized our ideas about nervous and mental diseases. In the first place, we have learned that chronic disorders may be started a-going, so to speak, by what seems to be an acute infection, as, for example, the Parkinson syndrome by encephalitis, or, if we accept the belief that encephalitis remains chronic in the individual, that other diseases besides syphilis are responsible for chronic mental and nervous diseases. This has made the attitude toward organic neurology more hopeful, since it indicates that diseases for which we have no etiology are not to be dismissed as idiopathic, or, to use Gower's term, abiogenetic in origin; these are confused mystical conceptions. Infections may be responsible for these mysterious diseases and our duty is to utilize the whole technique of modern medicine, including bacteriological studies, to ascertain causes in neurology.

Of as great interest has been the change in personality which takes place in children and, to a lesser extent, in adults, due to encephalitis. After the acute effects have passed away, and when no trace of the disease can be found in the organism, the results remain as extraordinary personality alterations. The organic basis of character and of mental disease thus becomes a working hypothesis of great importance, since organic bases are somewhat more tangible and scientifically handled than psychological bases.

A very important article by Paul Schilder (*Zeits. f. d. ges. Neur. u. Psych.*, Vol. 118, 1929, pp. 327-344) takes up the whole question of the mental changes which take place in chronic encephalitis, considers in detail the anatomical, neurological changes which are behind these alterations, and gives a very complete summary of the literature.

A. Eckstein (*"Encephalitis im Kindesalter,"* Berlin, 1929) pays especial attention to epidemic encephalitis in children. In infants the onset is quite sudden with muscular jerkings and fever and with sleep disorder coming later. Meningitic symptoms are often prominent. In some localities children suffer from an obstinate insomnia lasting for months, which follows after a very brief and mild lethargic state. There is a choreic form of encephalitis which needs to be differentiated from ordinary chorea minor. Eckstein especially emphasizes the serious alterations in character which appear in the chronic stage in children.

Character change in children is also emphasized by an important article by E. A. Strecker (*Arch. Neur. & Psych.*, Jan., 1929). Such children cannot be taken care of with normal children and must have special schools with special training. Strecker is quite optimistic about the results of such separate and special training.

In the treatment of acute epidemic encephalitis, Francis W. Heagey (*Minnesota M. J.*, Mar., 1929) lays special emphasis upon repeated lumbar punctures. He carries the lumbar puncture technique almost to the point of spinal fluid drainage. The advent of stramonium as a treatment of the Parkinson syndrome of chronic epidemic encephalitis is taken up by A. L. Jacobson and Frederick Epplen (*J. A. M. A.*, Dec. 28, 1929). In the dosage of the freshly prepared tincture from 20 to 70 mm. three or four times a day, they believe that stramonium is an excellent palliative remedy. They state that very large doses are necessary and that toxic manifestations are rare.

The drug harmin has been introduced in the last few years as a treatment for Parkinson's disease. T. R. Hill and C. Worster-Drought (*Lancet*, Sept. 28, 1929) have made a fairly complete study of the value and use of this drug. Their reports are not favorable to its use, although in the German use, transient, almost miraculous, improvement has been recorded. Apparently, however, the danger of the drug outweighs in some cases the transient improvement noted.

Cervical Sympathetectomy has been recommended for Parkinson's following encephalitis. M. Lisieyn (*Festschr.* for Prof. S. Brustein (Russian), abstracted in *Zentralbl. f. d. ges. Neur. u. Psych.*, Oct. 15, 1929) reports seven cases in which the whole cervical sympathetic is removed on both sides, and he reports considerable improvement in symptoms.

Whether there is more encephalitis from toxic causes than there was in the past, cannot be stated, but at any rate, a very much sharpened attention is being given to the encephalitic states which follow infections.

Thus A. Eckstein ("Encephalitis im Kindesalter", Berlin, 1929) takes up the whole question of encephalitis arising in connection with various infectious diseases. Measles, scarlet fever, chicken pox, mumps and whooping cough are commonly enough associated with encephalitis, which, in many cases, leaves permanent defect behind.

Latterly, postvaccinal encephalitis has become important. This is discussed by E. Gildenmeister (*Deuts. med. Wchnschr.*, Aug. 16, 1929). In this disease the changes occur in strict association with the blood vessels, so that there is very marked destruction of nervous structure in the vicinity of the blood vessels with almost complete demyelination. Other authors discuss this postvaccinal encephalitis. It appears to be relatively rare, but quite serious when it occurs.

NEUROSYPHILIS

In 1929, there was introduced by Muck the adrenalin vasomotor reflex in neurosyphilis (I. J. Arnsson, L. M. Sachs, and N. E. Stein in *N. Y. State Journ. Med.*, Oct. 1, 1929). The anterior portion of the inferior turbinate is made ischemic by means of a spray of adrenalin solution of 1 to 1,000 and a line is drawn upon it parallel with the floor to the nose with a probe,

under moderate pressure. A normal reaction is that after the probing, the ischemic mucous membrane immediately, or shortly afterward, turns hyperemic. The hyperemia remains limited to the probed line only, thus being markedly visible against the adrenalin ischemic background. After a variable time, the normal condition of the mucous membrane is restored. In the pathological reflex, the line produced becomes white and remains so for a long period of time on the pink background of the normal membrane.

If this test is proved by later researches to bé of specific value, it offers an easy way of orienting oneself on neurosyphilis, and likewise indicates that the sympathetic nervous system is involved in syphilis.

(See also Dr. O. Muck, *Zeits. f. d. ges. Neur. u. Psych.*, Vol. 118, 1929, pp. 421-428.)

AIR INJECTION STUDIES IN GENERAL PARESIS

L. Guttmann and W. Kirschbaum (*Zeits. f. d. ges. Neur. u. Psych.*, Vol. 121, 1929) may be cited as a typical research in this field. Encephalograms in general paresis show the degree of brain atrophy which exists before and after treatment and, in their opinion, also enable us to give a better prognosis as to the likelihood of achieving remissions by malarial treatment. Where there is distinct atrophy, the prognosis is poor; where there is little atrophy, the prognosis, on the whole, is better.

TREATMENT OF GENERAL PARESIS

J. Wagner-Jauregg (*Rev. Neur.*, June 1929), who introduced the malarial treatment, states that it must be combined with specific treatment. He advises the utilization of malarial treatment just as soon as the diagnosis is established, believing that the earlier this treatment is initiated, the better are the results obtained. He states that it may be of value to give malarial treatment as a prophylactic measure against syphilis, especially in those cases in which the patient continues to have positive reactions despite treatment. He emphasizes the fact that the remissions may not begin to be evident for several months after the treatment. He gives very definite and specific directions as to the treatment of those cases which show excessive malarial reaction, and uses quinine to mitigate the fever as well as to stop it. Wagner-Jauregg emphasizes the necessity of early, persistent treatment in syphilis as the best prophylaxis for neurosyphilis. He does not believe, as many have stated, that there is any danger of rendering the spirochete immune to treatment by arsphenamine, but on the other hand, indicates that the failures in the treatment of syphilis are due to insufficient treatment.

A. Ferraro (*Arch. Neur. & Psych.*, Jan., 1929) concludes that malaria has a favorable effect on the pathological processes in general paresis. This favorable effect is due to its lessening of the inflammatory reactions. The inflammation shows less exudate; there are fewer new blood vessels. The parenchymatous changes in the brain are less favorably influenced, although the neuroglia increase is favorably affected.

William Malamud and R. B. Wilson (*Arch. Neur. & Psych.*, Dec., 1929) show that the permeability for bromides, which is ordinarily increased in general paresis, is favorably influenced by malaria, in those cases in which the paresis itself is favorably influenced by the treatment. In those cases in which the permeability is not favorably influenced, the general condition of the patient also remains unchanged. In other words, the permeability of the spinal fluid barrier to bromides is an index of the value of treatment.

Many papers have been written, all over the world, concerning the malarial treatment of general paresis, which is at present the most important question in neurosyphilis. (See Bunker and Paulian, *Am. Jr. Psychiat.*, Jan. 1929; *Rev. Neurol.*, June, 1929.) In general, the opinion is that the malarial treatment of general paresis has established itself as the best method of treating this disease, that on the whole there is hope for a large percentage of patients either to undergo good remissions or to show substantial improvement, and that, especially combined with other forms of specific therapy, we have in the Wagner-Jauregg treatment a weapon of considerable strength in the war against syphilitic injury to the brain. It is believed that the fever induced by malaria is one of the potent factors in the successful treatment of this disease. Other means of raising the temperature and thus combating general paresis have been introduced, notably the use of high frequency current. (This is being done at present in Worcester State Hospital, and those interested in the exact technique can obtain information at this institution.) C. A. Neymann and S. L. Osborne (*Illinois M. J.*, Sept., 1929) describe their experiments, but do not cite any results. They point out the dangers and the difficulties of the treatment.

THE VEGETATIVE NERVOUS SYSTEM

A most important summary of the whole subject of the vegetative nervous system is given in the volume published by the Association for Research in Nervous and Mental Diseases, the papers of which were read the last few days of the year 1928. This important volume gives the history of the anatomy and physiology, the relationship to all other nervous structures, the sympathetic element in tone of muscles, the interplay with the internal secretions, etc. The vagus nerve activity is given in detail; the use of pilocarpine as an aid in localizing lesions by change in the sweating mechanisms is described.

Of most importance in practical results is the study of sympathectomy.

Brown and Adson take up the physiological effect of the thoracic and lumbar ganglionectomy. They conclude that ganglionectomy is an efficient operative measure in the treatment of Raynaud's Disease.

In thromboangiitis obliterans results were obtained on those individuals who had not yet suffered complete obliteration of the veins.

This volume also takes up the question of sympathetic ganglionectomy in angina pectoris, but since this is out of the field of neurology, I can only recommend its reading to those interested without reviewing its results.

THE PSYCHONEUROSES

The literature on the psychoneuroses is still immense. The bulk of papers are written from a psychoanalytical or psychotherapeutic point of view. It is impossible to review this literature due in part to its bulk and also because it belongs more in psychiatry than in neurology, since all authorities are agreed that the psychoneuroses are mental diseases, whether they start from the assumption that Freudian mechanisms are at work or whether they believe organic interference with the structures which express themselves in mind are involved.

The psychoneuroses remain as perhaps the most common of human ills, the most speculated about, and the least understood, with the result that their therapy is part of the procedure of Christian Science, osteopathy, faith healing, social work, general medical practice, surgery, psychoanalysis, orthodox psychiatry, and common sense.

CHRISTMAS SEAL SALE

The 24th annual sale of Christmas Seals for the prevention of tuberculosis is now going on.

The Massachusetts Tuberculosis League, which is the agent of the National Tuberculosis Association in this State, has sent out to its twenty-eight Affiliated Organizations seventy million Seals which is in excess of the number sent out last year by five millions.

Governor Allen has sent to the League the following endorsement of the Seal Sale:

"I am very glad to offer again my endorsement of the annual sale of Christmas Seals for the prevention of tuberculosis. Any undertaking that has for its purpose the improvement of health conditions in this State deserves heartiest commendation, and this movement which has for twenty-four years been growing in strength and scope is one of great and far-reaching importance.

"Each year the funds derived from the sale of these little Seals help to augment the work of the official health agencies. Needy children are cared for in the health camps of the Tuberculosis Associations; nurses are employed to care for patients in their homes and to instruct families in the means of prevention of this serious plague; and the State Department of Public Health as well as the local health departments are immeasurably assisted in their work by the volunteer tuberculosis workers provided by this fund.

"As Governor of this Commonwealth, I earnestly bespeak, therefore, the generous support of this Seal Sale by all the citizens of Massachusetts."

Dr. George H. Bigelow commends the Seal Sale to the people of the State in the following statement:

"The work of the volunteer tuberculosis agencies in Massachusetts is an invaluable adjunct to that of the public health authorities.

"Tuberculosis continues to be a very serious public health problem even in the face of reduced mortality in recent years. More than ever the need is here for concerted effort on the part of the public agencies and the private societies. The latter derive their support from the generous people of the State.

"I heartily endorse the efforts of the tuberculosis associations and I trust that the people of Massachusetts will continue to support them, especially in this difficult year."

Other endorsements have been given by Bishop Sherrill, Cardinal O'Connell, Rabbi Harry Levi and Dr. Frederick T. Lord.

The League and its Affiliated Organizations employ nurses and social workers in connection with the campaign for the prevention of tuberculosis in this State. They also provide care for twenty-five hundred children at the twenty summer health camps which are operated during July and August. In addition to these camps the Boston Tuberculosis Association maintains the Prendergast Preventorium at Mattapan.

The Officers of the League are: President, Dr. Frederick T. Lord; Honorary President, Dr. Edward O. Otis; Vice-President, Dr. Francis P. Denny; Honorary Vice-Presidents, Dr. George H. Bigelow, Rt. Rev. William Lawrence, William Cardinal O'Connell, Rabbi Harry Levi; Treasurer, Arthur Drinkwater; Assistant Treasurer, Romney Spring; Executive Secretary, Frank Kiernan. The members of the Executive Committee of the League are the Officers and Dr. Walter P. Bowers, Mr. William N. Goodell, Dr. Roger I. Lee, Dr. Olin S. Pettingill, Dr. Nahum R. Pillsbury, and Rev. Charles P. Wellman.

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 16501

DYSPNEA ON EXERTION

MEDICAL DEPARTMENT

A laborer fifty-six years old entered May 13 complaining of abdominal pain of five weeks' duration.

For three months he had had dyspnea on exertion, rapidly increasing in severity in the past few weeks. At present he had to sit down and rest frequently while at work. He wheezed considerably on climbing two flights of stairs. He had slight cough, occasionally with a little whitish sputum. For five weeks he had had moderate griping pain extending all across the epigastrium but usually more severe just to the right of the midline. It was constant but varied in intensity without recognized relation to eating, exertion or other factors and did not radiate. Since its onset he had had no appetite, had taken chiefly liquid food and had vomited much of that. Soda gave no relief. He had nausea. The vomiting was not projectile. He noticed the pain less while he was working. It often kept him awake, but never awakened him, though it was sometimes severe enough to double him up. For the past two weeks he had had progressive swelling of the legs not varying by day or night. He was not sure whether his abdomen had swelled or not. He first consulted a doctor twelve days before admission. He worked up to the night before admission. He thought he had lost weight during the illness. He came to the hospital solely on the advice of his doctor. He was troubled by his disease chiefly because it interfered with his comfort and his work.

His family history is excellent so far as known.

His past history is negative.

Clinical examination showed a big Irishman in no distress. The lips were slightly cyanotic. The teeth were carious. There was marked pyorrhea. The chest was barrel shaped. The heart was normal, the blood pressure 120/80. The lungs were negative except for medium moist râles at both bases behind. The abdomen was protuberant and tense, with shifting dullness and fluid wave. The liver dullness was at the fourth rib. In the left flank was a distinct mass four finger-breadths below the costal margin, whether spleen or kidney was not determined. There was a sense of resistance in the right upper quadrant, not, however, a ballotable liver. An indefinite edge was felt below the right costal margin. There was marked edema of the feet and pitting up to the knees. The left knee jerk and ankle jerk were not obtained on reënforcement. The pupils were pinpoint but reacted normally.

Urine: amount not recorded, specific gravity 1.025 to 1.030, a slight trace of albumin at four of five examinations, one to five leukocytes per field at four, a rare red cell at two, granular and cellular casts at four. Renal function 55 per cent. Blood: 14,700 to 27,100 leukocytes, 90 to 98 per cent polynuclears, hemoglobin 60 to 55 per cent, reds 4,070,000 to 3,640,000, slight achromia, moderate anisocytosis and poikilocytosis, no stippling or polychromatophilia, platelets apparently normal, reticulocytes 1.3 per cent. Hinton negative. Icteric index 3 to 10. Liver function 15 to 30 per cent retention in 30 minutes. Non-protein nitrogen 55 milligrams. Fasting contents of the stomach: 50 cubic centimeters of slightly brownish fluid, total acid 13. Test meal in half an hour: 30 cubic centimeters of similar fluid, total acid 8; in one hour, 25 cubic centimeters of fluid, total acid 5. All three specimens showed no free acid, guaiac positive. (The patient retched and coughed enough to bring the tube out of his stomach twice.) Stools: guaiac positive to very strongly positive at nine of twelve examinations, macroscopic blood at two. Vomitus: guaiac positive to very strongly positive at all of three examinations.

X-ray examination. The stomach was displaced to the left and the duodenum to the left and downward by a mass in the right upper quadrant which extended over beyond the midline. The stomach and duodenum showed no evidence of intrinsic pathology. There was some delay to the passage of barium in the third portion of the duodenum and the second and third portions were somewhat dilated. The kidney outlines were not visible on either side. The spine showed hypertrophic changes. A barium enema passed to the cecum without delay. The hepatic flexure was low, the remainder of the colon being in the usual position. No intrinsic pathology of the lower intestine could be demonstrated. A plain film of the abdomen showed what appeared to be the left kidney outline normal in size, shape and position. The right was also visible. It did not appear definitely abnormal. There was homogeneous dullness in the right upper quadrant with the general shape and outline of an enlarged liver. It appeared to displace the transverse colon and the hepatic flexure downward. There were no unusual areas of calcification. The vertebrae showed evidence of advanced hypertrophic arthritis.

Temperature 101.5° to 95°. Pulse 79 to 111. Respirations normal.

The patient was thought to have two abdominal masses, one the size of a baseball, nodular, not tender, in the left upper quadrant which descended a little with respiration and another in the left flank which felt like the spleen. The day after admission the knee and ankle jerks were equal and active.

The patient was fairly comfortable except for aching in the right upper quadrant most of the time with occasional vomiting. No glands could be felt. May 20 the temperature was normal for the first time. He now had constant aching in the right flank. Nothing could be felt there. Edema of the legs was more marked. He failed steadily from admission. May 23 he went into semicoma. The abdomen was much distended with fluid. Early the morning of May 24 he died.

Discussion

BY RICHARD C. CABOT, M.D. AND AUBREY O. HAMPTON, M.D.

NOTES ON THE HISTORY

Of course a cardiac lesion is suggested by chronic dyspnea. We are looking for congestion in the liver and pain corresponding to it. But we are looking for some other cause beside that.

That pain is not characteristic of any common disease. It is not like gall stones, not like peptic ulcer. It does not breed true so far.

That is a tragedy, that a man should think he had to work when he was in such a condition as that, and should not consult a physician until twelve days before admission.

The history gives a strong suspicion of cardiac disease.

NOTES ON THE PHYSICAL EXAMINATION

At his age barrel chest has no significance.

A mass in the left flank naturally makes one think of the spleen first.

I should think that my first guess, based on the history, was obviously wiped out. If he had cardiac disease with a normal heart and blood pressure, I do not see how we can say so. The physical examination makes us suspect cirrhosis of the liver, which with enlargement of the spleen and liver and the fluid in the abdomen would warrant our guessing it at least.

The urine gives no evidence for nephritis.

The blood examination shows there really is a leukocytosis for which cirrhosis of the liver would not account. The blood smear shows secondary anemia.

The icteric index is practically within normal limits. The liver function test means definite organic disease of the liver.

The non-protein nitrogen of 55 milligrams is not high enough to bank on.

The test meal shows low acidity. From the gastric examination I cannot help thinking of cancer of the stomach. The blood in the stools is important. We certainly cannot say these findings are accidental.

Dr. Hampton: Here is a plain film of the abdomen taken, I suppose, to show the dilated bowel or possibly the soft tissue mass described in the physical examination. There is no evidence that the tumor is calcified. The kidneys are faintly seen. So far as I can tell the right appears a little larger than the left. The kidney outlines are very smooth. It does not appear that the kidneys could account for the tumor. There are no visible stones in the urinary tract. There is a soft tissue mass on the right side of the abdomen approximately extending to the crest of the ileum and displacing the transverse colon and the hepatic flexure downward. The left side of the abdomen is not well shown. We see only two thirds of it in this film. This is a large patient, and in the presence of fluid all the abdominal organs are partially obscured. I do not believe that from these films we can say anything about the mass on the left side.

We have apparently a barium enema here and a six-hour examining meal in the stomach and terminal ileum and cecum. The stomach, as you see, presents a marked irregularity of the greater curvature. The lumen of the stomach is small. The stomach is in about the usual position. We apparently interpreted this irregularity of the greater curvature as an extrinsic mass, but in the absence of displacement of the stomach I think that this would be unlikely.

Dr. Cabot: The stomach is not displaced, then?

Dr. Hampton: No, the stomach emptied fairly rapidly. This film was apparently taken at twenty-four hours. The terminal ileum is moderately large. That might be due to magnification. The cecum is poorly shown. The patient was apparently not able to retain the barium injected for examination of the colon.

Here is a film taken of the chest on the twenty-third. This is taken at a fairly close distance. The left diaphragm and the left lung are essentially normal in appearance. The right diaphragm is high. The right lung is smaller than the left. The interspaces are narrow. The right lung is distinctly less radiant than the left. There is mottled dullness just above the diaphragm and in the middle portion of the right lung. The heart is possibly a little to the right, but not much. The left ventricle appears prominent. We cannot make any statements as to what the actual diameter of the heart would be.

Dr. Cabot: I think this demonstration gives us quite a different picture from what we get in the record. The record says the stomach was displaced. Dr. Hampton says it was not displaced. Possibly there was pathology in the greater curvature.

DIFFERENTIAL DIAGNOSIS

Much the simplest diagnosis is cancer of the stomach, and I rather suppose that is right. However, I am not absolutely convinced. The chest complications are terminal. We have, then, a lesion which has caused pain, vomiting and loss of appetite. The guaiac reaction in the stomach contents and the intestinal contents is positive. X-ray shows a lesion which may perfectly well be stomach cancer. There is a leukocytosis which we have not easily accounted for unless it goes with pneumonia at the end. We shall have to find out when that count of 27,000 was made.

MISS PAINTER: It was made on May 21.

DR. CABOT: Then it was terminal, and presumably due to the pneumonia.

In the later examinations we have tumors on the left side of the abdomen which do not easily fit into the diagnosis of cancer of the stomach but may be due to metastases. Certainly the disease was not at the cardiac end of the stomach. There were no symptoms that would go with that, no difficulty in swallowing. It would seem therefore that the tumors on the left side, if the diagnosis is primary cancer of the stomach, represent metastases connected possibly with those that caused fluid in the abdomen which I suppose was due to the pressure of metastatic glands. On the whole my diagnosis is cancer of the stomach, not from the description here, but from the x-ray.

If it is not cancer of the stomach, what is it? Probably some other malignant tumor. We cannot put it in any portion of the intestinal tract because malignant diseases of the small intestine are very rare and the barium enema passed to the cecum. There is no good evidence of its being in the kidneys. It might be in the pancreas. But this is less evidenced than the diagnosis of cancer of the stomach. The tumors in the liver and the retroperitoneal glands, presumably secondary, resulted in these accumulations of fluid.

As to the terminal event, the lungs were normal at the entrance. Therefore it probably was not tuberculosis.

A STUDENT: Could the whole thing be lymphoma?

DR. CABOT: I suppose it could. But we are called upon to say where. Where would you like to put it?

A STUDENT: I should not like to say.

DR. CABOT: I think one has to say something about that. It seems to me we have got to put it in the gastro-intestinal tract because of the positive guaiacs. It might be in the small intestine. The x-ray would not show that. But it would be very strange that there are so many gastric symptoms if it is in the small intestine.

A STUDENT: Could it be left-sided hypernephroma?

DR. CABOT: It might be hypernephroma with metastases in the liver. The difficulty about that is that it would not account for the gastro-intestinal manifestations.

A STUDENT: How do you account for the edema in the extremities?

DR. CABOT: If, as I believe, he has ascites which was accounted for by the metastases in the retroperitoneal glands, he naturally would have edema of the extremities going with it.

A STUDENT: How about portal obstruction?

DR. CABOT: That is a perfectly possible diagnosis, cirrhosis of the liver with an enlarged spleen. But we do not expect repeated positive guaiacs going with that. We expect a single large hemorrhage, and we do not expect so much in the way of stomach symptoms. I do not believe, however, that cirrhosis of the liver can be absolutely ruled out.

A STUDENT: If it were cancer of the stomach, wouldn't food have aggravated his symptoms and caused more pain?

DR. CABOT: I think that is a point against it, but not conclusive.

A STUDENT: What would be the possibility of cancer of the gall bladder with metastases?

DR. CABOT: The chief point against it is the presence of positive guaiacs, the marked stomach symptoms and the x-ray picture, none of which you would expect in carcinoma of the gall bladder.

A STUDENT: Is there any chance of splenic thrombosis?

DR. CABOT: That is a very rare diagnosis. I never made it, and do not know the symptoms.

A STUDENT: What about the so-called mass, the ascites and the vomiting, as a result of splenic thrombosis?

DR. CABOT: I know very little about splenic thrombosis. I cannot deny that it is possible, but we should have to have a cause for it.

A STUDENT: Could it be duodenal cancer?

DR. CABOT: Duodenal cancer is extremely rare. It is not unknown, but it should not cause a tumor on the left side.

DR. HAMPTON: I should like to make a correction about the displacement of the stomach mentioned. The stomach was not displaced by the mass on the left side. It was displaced downward.

A STUDENT: Would it metastasize to the pancreas?

DR. TRACY B. MALLORY: The pancreas is almost the last organ, except of course the spleen, to show metastatic cancer from any source.

A STUDENT: How can you explain the 98 per cent polynuclears?

DR. CABOT: If that count was made early in the disease I cannot explain it. If it came after the lung signs developed, it might be due to those.

A STUDENT: Wouldn't esophageal varices explain bleeding?

DR. CABOT: I think not. With esophageal varices we expect a large amount once and then nothing. We do not expect small amounts of blood in nine out of twelve examinations of feces.

A STUDENT: Isn't that a short duration of symptoms for cancer of the stomach?

DR. CABOT: No, I should not say so. The cancer must have been there much longer. Short duration of symptoms of cancer is quite common.

X-RAY INTERPRETATION

The findings are those of a mass pressing on the stomach and duodenum without intrinsic pathology in this portion of the gastro-intestinal tract.

Examination of the abdomen and vertebrae showed no evidence of metastases.

CLINICAL DIAGNOSIS

Cancer of the liver. (Primary focus?)

DR. RICHARD C. CABOT'S DIAGNOSIS

Cancer of the stomach.

ANATOMIC DIAGNOSES

Carcinoma of the stomach with hepatic metastases.
Pulmonary atelectasis.
Slight bronchopneumonia.

PATHOLOGIC DISCUSSION

DR. MALLORY: This was about as big a cancer of the stomach as we have seen in a long time. There were many metastases in the liver, the largest of which was on the dome of the right lobe and was responsible for pushing up the right diaphragm in the peculiar way which you saw in the x-ray.

There was practically nothing else of any significance. The lower lobes of both lungs were a little atelectatic. There was a trace of consolidation in the left lower lobe.

DR. CABOT: I suppose he had bronchopneumonia?

DR. MALLORY: A trace only.

A STUDENT: What were the masses on the left side?

DR. MALLORY: The stomach and infiltrated omentum, I think.

A STUDENT: What were the masses in the left flank?

DR. MALLORY: Nothing was found to account for that. The spleen was negative, the kidney negative. This lesion was entirely on the posterior wall of the stomach. Lesions on the lesser and greater curvatures usually show by x-ray. Those on the posterior and anterior walls are often missed.

CASE 16502

AN ACUTE ILLNESS WITH ENCEPHALITIC SYMPTOMS

CHILDREN'S MEDICAL DEPARTMENT

PRESENTATION OF CASE

DR. BERNARD GILMAN*: A white boy aged six years was admitted to the hospital on August 27.

Family history. The other members of his family were well. There was no history of exposure to tuberculosis.

Past history. The boy had been quite well and appeared normal until the present illness. He had had tonsillectomy and adenoidectomy at thirteen months and measles at five years.

Present illness. Early in the summer he complained of headache and was given a tonic for a "run-down" condition. The mother thought that he lost weight during the summer. During the week beginning August 18 his appetite became very poor and he complained of headache. On August 24 at noon he had projectile vomiting and complained of pain in his throat and uneasinesss in his stomach. Fever and lassitude were noted. On August 25 a physician was called who made a diagnosis of biliousness and took a throat culture. Food was discontinued owing to the vomiting and difficulty in swallowing. Fluid was given by medicine dropper. On August 26 another physician saw the child in consultation. It was felt that the diagnosis rested between meningitis and rheumatic fever. In the afternoon the fever remained very high and mucus collected in the throat, making breathing difficult. It could not be coughed up. On the following day he seemed to become worse and was sent to a hospital. There a diagnosis of poliomyelitis was made.

It seemed likely that putting him into a respirator might be advisable. Therefore he was transferred to the Massachusetts General Hospital.

Clinical examination. The boy was quite ill on admission, but was conscious and responded intelligently to questions. He was distinctly dehydrated; the skin was dry and the mucous membranes appeared dry. He was not hoarse and his voice did not have a nasal tone. He was unable to swallow. His respirations were shallow, 30 per minute. The diaphragm and chest moved normally. The nostrils dilated a trifle on respiration. The eyes and ears were normal. The throat was not injected, but was filled with a seromucous discharge. The palate moved normally; a gag reflex was obtained. The lungs were normal to percussion and auscultation except for numerous loud râles all over the chest, apparently transmitted from the throat. The heart was not enlarged. There were no murmurs. The sounds were of good quality. The rate was rapid, 120 per minute. The abdomen was soft and sunken. The liver and the spleen

*Senior interne on the Children's Medical Service.

were not felt. No masses were made out. No paralysis was detected. The extremities were hypotonic. The knee jerks, ankle jerks, abdominal, cremasteric, and biceps reflexes were all quite active.

On admission the temperature was 101.5°. The next day it rose to 102° and remained between 102° and 105° until death. The respirations rose from 30 to between 40 and 60 per minute.

The leukocyte count was 21,150, 88 per cent polynuclears, 10 per cent lymphocytes, 2 per cent large mononuclears. The hemoglobin was 70 per cent and the red count 5,980,000. The urine showed a faint trace of albumin, a greenish discoloration with Benedict's test, no acetone, and occasional red and white cells.

Clinical course. The dehydration was combated by hypodermoclysis. The child objected so violently that further attempts to combat dehydration, as no fluid could be got in by mouth, were by intravenous injection of glucose and salt solution. He did not retain fluid by rectum. Tube feeding resulted in vomiting.

His respirations seemed to become easier, although at times he seemed to be choked up by mucus and had considerable difficulty in breathing. Suction usually relieved this. On two occasions the respirator was tried without success. The child was more comfortable outside than inside the box.

The clinical impression was polioencephalitis, bulbar type. A lumbar puncture was not attempted for thirty-six hours. Then ten cubic centimeters of clear fluid was obtained. It was not under pressure (140 millimeters). The cell count was 16, 10 polymorphonuclears, 6 lymphocytes. A Pandy test was negative. The sugar was .083 per cent.

On August 30 a nystagmus was detected, slow motion to the left, rapid to the right. The palate moved, but less than normally. A laryngoscopic examination revealed no involvement. A neurological consultant saw the child that day. He was inclined to believe there was a rather localized lesion in the medulla, left sided, and suggested tuberculoma or abscess.

The fever, tachycardia, mucus in the throat and inability to swallow persisted. On August 31 the child suddenly became quite cyanotic during an intravenous infusion. The next day he suddenly died.

Clinical Discussion

Dr. Henry E. Gallup: I saw the boy on the afternoon he was admitted. There are two very important points to remember. First, we should never make a positive diagnosis without going very carefully into the history and physical examination and supplementing these with all necessary laboratory data. After a rather cursory history and a superficial physical examination I was content with a diagnosis of infantile paralysis, after which they immediately sent the child into the hospital.

Another fact that stands out is that this boy was very much dehydrated. After arriving at the hospital he reached for a glass of water and drank it. He choked up and immediately became very cyanotic. We had to tip him up and drain him. Never give a person with inability to swallow anything to drink.

Dr. John J. Dunphy: This child was seen by me about twenty-four hours before he died. I had the laboratory findings at my disposal and probably was in a better position to make a diagnosis than the men who saw him earlier.

The things that impressed one most when examining this boy were his difficulty in breathing, shallow irregular respirations, and the difficulty he had in swallowing. There was considerable mucus in his throat which he could neither expectorate nor swallow. He certainly looked like a case of infantile paralysis of the bulbar type.

I should interpret the spinal fluid findings as being entirely negative; the dynamics normal, the cell count normal. Pandy's test was not positive, the sugar was within normal limits and the total protein normal. It seemed inconceivable that we were dealing with a case of infantile paralysis with these normal findings.

It then became a question of searching elsewhere to determine what he had. Foreign body was considered but was ruled out by the absence of choking at the onset, the lack of cyanosis, and his breathing was not of the obstructive type. Retropharyngeal abscess was thought of, but examination with this in mind was negative.

The brain appeared then to be the seat of the trouble, and especially the medulla. Dr. Kubik had suggested it might be either a localized abscess or a tuberculoma. The patient's previous history of headache and loss of appetite suggested the latter, while the acuteness of the condition, the high temperature throughout and his general appearance, with marked dehydration, favored a septicemia with medullary involvement.

In the absence of discernible foci the throat seemed to be the point through which the organisms entered the blood stream. The heart was very rapid, 130-150 per minute, not enlarged to percussion, and auscultation was not unusual.

The lungs at this time were beginning to show signs of consolidation at the right base, no doubt a terminal pneumonia.

Neither a tuberculin test nor a blood culture was done because the patient was so sick and irritable.

I believe the service felt just before the boy died that we were dealing with a septicemia with a localized abscess in the medulla, the original focus probably the throat, though we were not ready to rule out entirely a tuberculoma of the medulla.

Dr. William Lloyd Aycock: I am beginning to gather that there is something unusual about this case. But from what I read here it would be very hard from a clinical point of view not to make a diagnosis of bulbar poliomyelitis. The previous history is vague to say the least. During the week of August 18 the child's appetite became poor and he complained of headache. We are not told whether that was his first febrile attack. If we had a clear history of a febrile upset just five days before August 24 we should think strongly of a dromedary poliomyelitis. Then we have the story that is so common, that the boy was shuffled around for four or five days with one diagnosis or another. Recently we had a case of bulbar poliomyelitis diagnosed as diphtheria among other things. After a few days another boy who had been at the same camp developed bulbar poliomyelitis. On hearing of the second case the diagnosis of bulbar poliomyelitis was finally made on the first. The respiration rising from 30 to between 40 and 60 is consistent with a bulbar case. The temperature at 105° is consistent with it. The spinal fluid cell count is also consistent with a diagnosis of bulbar poliomyelitis. These bulbar cases run unusually low cell counts as distinguished from the spinal type usually running from 150 to 300 cells. I should say the cell count would not rule out bulbar poliomyelitis. I saw a case a year ago with a cell count of one. I was convinced that the person who made the count knew how to make a cell count and had done it properly. That is the only case I have seen with a count as low as that. We have seen a few cases with counts of 10 or 12. Nystagmus and palate involvement also go with it. On the whole I think from a clinical point of view we should have to treat the case as one of bulbar poliomyelitis. I am prepared to hear that you found something else later.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Respiratory failure, cause unknown.*
Bronchopneumonia.

ANATOMIC DIAGNOSES

1. *Primary disease.*

Acute and chronic endocarditis.

2. *Secondary or terminal lesions.*

Area of softening in the medulla.
Terminal bronchopneumonia.

Pathologic Discussion

Dr. Tracy B. Mallory: The autopsy findings were on the whole quite unexpected. There was an acute verrucose endocarditis with a secondary localized area of softening in the medulla and a terminal bronchopneumonia which had not been present I am sure for any great length of time. We felt at autopsy that the symptoms were the result of embolism from the acute endocarditis. There was very little other evidence of embolism. In the kidney I did see a couple of completely hyalinized glomeruli, and there were also a few other glomeruli showing slight changes in one or more loops of the glomerular tuft quite consistent with embolic lesions. In an older person they would be of little importance, but at six years we can unquestionably consider them significant.

Dr. Kubik has examined the brain and I will ask him to tell us about that.

Dr. Charles S. Kubik: At autopsy there was a circumscribed lesion in the upper part of the medulla between the inferior olive and the restiform body. This was on the right side, two or three millimeters in diameter. It was of a pinkish brown color. It looked like a softening, and histologically that is what it is. There was also a similar but smaller lesion in a corresponding area on the opposite side which was not noted in the gross specimen.

I might add that my reason for thinking that it was not a poliomyelitis was the fact that this boy when he came in had paralysis of deglutition, but he was able to talk, and his respirations, although they were weak perhaps, were well carried on. In poliomyelitis, a diffuse process, one would hardly expect the center for swallowing to be paralyzed without involvement of the center which controls the muscles of phonation. I thought of tuberculoma because it is fairly common to find tubercles in the medulla and I had never seen a softening or heard of one. A short time before that we had found a case of rather small abscess in the medulla.

In a microscopic section of the lesion you can see that the cells there are increased. There are many nuclei. The tissues are faintly stained and on looking at the cells more closely one finds them to be phagocytic cells such as we see in softening after vascular lesions from any cause. In addition to that there is a good deal of perivascular infiltration. It is lymphocytic chiefly. One sees a few polynuclears. It is much the same sort of perivascular infiltration that we see in poliomyelitis, which perhaps cannot be ruled out in this case, although I have never heard of a circumscribed softening like that occurring in poliomyelitis. On the other hand, in softenings as a result of embolic lesions in endocarditis there may be a good deal of perivascular infiltration in the region of the lesion.

Dr. Mallory: Have you ever heard of an area of softening as extensive as that in poliomyelitis?

Dr. Aycock: The softening is the one thing that is against the diagnosis of poliomyelitis. I think it would have been interesting to inoculate a monkey with a piece of this medulla. That

*Opinions expressed after the autopsy were to the effect that this was not the diagnosis of the Department, and that the consensus of opinion was that the cause of death was abscess in the medulla.

might not have meant a great deal, because it is not always easy to get a "take" from human poliomyelitic material injected into a monkey the first time. But it would have been rather interesting to find that it did take. I think one is left somewhat in doubt as to whether it might not have been poliomyelitis or whether the whole thing was a softening due to embolism from the endocarditis.

DR. KUBIK: I think that if it was poliomyelitis we ought to have found lesions in the cord.

DR. AYCOCK: I suppose this is one of the cases of paralysis localized to the muscles of swallowing. We sometimes find nothing but the palatal muscles paralyzed, or inability to swallow without any other involvement. To be sure, the rule is that the facial muscles are affected along with those of swallowing, but the extremities are as a rule not involved.

A PHYSICIAN: What valves were involved, Dr. Mallory?

DR. MALLORY: The mitral only. There was a very extensive process on the mitral, both acute and chronic. The blood culture at autopsy was negative.

A PHYSICIAN: Was the heart very much enlarged?

DR. MALLORY: No, I should say not. It weighed 110 grams. I think that at six years that is perhaps slight enlargement.

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THE PROPOSED AMENDMENT TO SECTIONS 20 AND 21, CHAPTER 272 OF THE GENERAL LAWS RELATING TO THE PROBLEMS OF CONTRACEPTION.

IN the *Journal* of January 23, 1930 the right of physicians under the Massachusetts law to give contraceptive information to women physically unfit to bear children was discussed at some length. It was pointed out that the giving of oral information is not prohibited, but that the sale, loan or gift of articles or drugs for this purpose is apparently illegal. Since modern contraceptive methods require the use of appliances or combinations of chemicals, it is obvious that unless the patient can obtain these, she will not be helped to any considerable degree by oral information alone. In spite of the clearly expressed prohibition of the sale, gift or loan of contraceptive articles and drugs, there is good reason to believe that physicians might not be found guilty of breaking this law, provided their action was taken to preserve the health of the patient. It seems probable that these laws were not intended to interfere with the employment by physicians of this method of preventive medicine. As a matter of fact, at the time the last law on this subject was passed by the Massachusetts Legislature, very little was known by physicians as to suitable measures to use in such cases. The whole question has been one of recent development; the past decade has seen discussion of birth control brought out of the dark, whispering corners, to be spread upon the pages of some of our most intellectual and conservative lay periodicals.

More and more we have come to believe that it is right that women who are temporarily or permanently unfitted to bear children should be instructed how to prevent conception without being deprived of the full measure of marital happiness. The need for such instruction is especially felt in our larger hospitals, with a clientele which includes large numbers of ignorant and superstitious women.

In order to make it possible for physicians legally to give effective contraceptive advice in the course of their treatment of patients, it is proposed to introduce at the next session of the Massachusetts Legislature an amendment to Sections 20 and 21, Chapter 272. The introductory petition, with the names of its signers, and the amendment itself, are as follows:

> To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:
>
> The undersigned citizens who are all practising physicians of Massachusetts, respectfully petition for legislation in the form of the bill appended hereto for the purpose of removing the uncertainty in the minds of physicians and their legal advisers as to whether by the existing provisions of Sections 20 and 21 of Chapter 272 of the General Laws of Massachusetts the freedom of action of duly registered physicians and of hospital staffs and medical schools in giving treatment, prescriptions and instruction for the protection of the health and the prevention of disease is restricted.
>
> There exists in this Commonwealth a very urgent need for providing under proper auspices effective contraceptive advice and treatment to women of all classes who are suffering from organic diseases of the heart, lungs, or kidneys, or from other physical weakness, and to whom a further pregnancy is likely to be fatal, or at least permanently injurious.
>
> The statute mentioned contains no restriction upon the giving of oral contraceptive advice, but in the normal practice of a physician, and in the regular work of hospitals and medical schools, there is occasion for providing and demonstrating the means and method of treatment, and for written and printed advice, prescriptions, and instruction concerning the proper use of the things prescribed or recommended, and it is therefore important for the medical profession and those working with them to have a clear understanding as to the extent to which they are affected by the provisions of the above mentioned Sections 20 and 21 in the proper and legitimate practice of their profession.
>
> It is believed by the petitioners that these provisions were not enacted with the intent of making them applicable to registered physicians, and that as a matter of right no such hampering restriction

should be put upon a physician in the performance of his fundamental professional duty of relieving suffering and preventing disease.

Many physicians, hospital staffs, and medical school instructors, however, feel uncertain as to the effect of these statutory provisions, and as a result of that uncertainty there are many women, especially among patients of the larger hospitals, whose lives are jeopardized by lack of effective advice and instruction.

The above petition is signed by:

WALTER P. BOWERS
LINCOLN DAVIS
ROBERT DENORMANDIE
CHANNING FROTHINGHAM
BURTON E. HAMILTON
JOE V. MEIGS
FRANKLIN S. NEWELL
WILLIAM H. ROBEY
JOHN ROCK
WILLIAM M. SHEDDEN
GEORGE GILBERT SMITH
HOWARD B. SPRAGUE
JOHN H. TAYLOR
SHIELDS WARREN

The Bill in question reads as follows:

An Act relative to the clarification of certain provisions of Sections 20 and 21 of Chapter 272 of the General Laws of Massachusetts as not applicable to registered physicians, chartered hospitals and medical schools, and standard medical publications.

Sections 20 and 21 of Chapter 272 of the General Laws are hereby amended by inserting at the end and as part of said Section 21 the following:

"The provisions of this and of the preceding Section 20 shall not be construed to apply to an article or prescription used for the protection of health, or for the cure or prevention of disease, by a duly registered physician lawfully practising, or by the direction or prescription of such physician; nor shall said sections be construed to apply to the treatment and prescription given for said purposes by chartered hospitals, or to affect teaching in chartered medical schools or writings in standard medical journals or the publication of standard medical books."

The success of this effort to clarify the rights of physicians will depend almost entirely upon the way in which the subject is brought to the attention of the individual members of the Legislature. There will be no lobbying, but there will be an effort to see that every legislator is approached by someone who can explain the purpose of the bill. The best people to do this are those doctors who are personally acquainted with the legislators. It would be a great help if readers of the *Journal* who know members of the Legislature would communicate with the *Journal* office.

PREPARATION FOR NURSING SERVICE

FROM a rather unwilling trial in a few hospitals, less than sixty years ago, the establishment of training schools for nurses has become almost the universal practice of hospitals in this country.

The reason, therefor, is to provide the cheapest good nursing to the hospital patients.

The needs of the public in the majority of schools have hardly been considered and the future of the students for other than ward work has likewise been a secondary matter.

Of late, the whole subject has received much thought from physicians, educators, and, of course, the nurses themselves.

Four years ago, a committee with representatives from the national nursing organizations, the Public Health Association, the American Hospital Association; educators and physicians, has been at work studying the subject in a broad way.

Its work will continue another year and it is hoped that their labors will not be in vain in setting forth "ways and means for insuring an ample supply of nursing service of whatever type and quality is needed for adequate care of the patient, at a price within his reach". In the present issue of the *Journal*, we print three papers on the subject. Dr. May Ayres Burgess, Director of the Committee above referred to, gives some of the facts the Committee has learned that should be of interest to every reader. Dr. Stephen Rushmore's paper discusses Public Health Nursing and Dr. Joseph B. Howland discusses the subject from the hospital point of view.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

D'ERRICO, EMILIO. M.D. Tufts College Medical School 1923. Assistant Junior Surgeon, Cambridge City Hospital. Assistant to Visiting Surgeons for Gynecology and Obstetrics, Boston City Hospital. Assistant Obstetrician, Lawrence Memorial Hospital, Medford, Mass. Teaching Assistant in Obstetrics, Tufts College Medical School. His subject is: "Primary Torsion of the Great Omentum." Page 1181. Address: 27 Bay State Road, Boston.

BURGESS, MAY AYRES. Ph.D. Director, Committee on the Grading of Nursing Schools. Her subject is: "The Nursing Situation." Page 1189. Address: 370 Seventh Avenue, Room 1647, New York City.

HOWLAND, JOSEPH B. M.D. Harvard 1896. Superintendent, Peter Bent Brigham Hospital. Administrator, Huntington Memorial Hospital. Member, Committee on the Grading of Nursing Schools representing The American Hospital Association. His subject is: "The Hospital as a Means of Educating Nurses." Page 1193. Address: 721 Huntington Avenue, Boston.

RUSHMORE, STEPHEN. A.B., M.D. Johns Hopkins University 1902. F.A.C.S. Board of Managers, Community Health Association, Boston. His subject is: "Public Health Nursing." Page 1195. Address: 520 Commonwealth Avenue, Boston.

MAY, GEORGE ELLIOTT. A.B., M.D. Harvard 1925. Junior Visiting Surgeon for Gynecology

and Obstetrics, Boston City Hospital. Junior Visiting Obstetrician for the Newton Hospital. Assistant Obstetrician, Massachusetts General Hospital. Assistant in Gynecology, Harvard Medical School. Assistant in Obstetrics, Tufts College Medical School. His subject is: "Auto Blood Transfusion." Page 1197. Address: 201 Bay State Road, Boston.

VESTAL, PAUL W. M.D. Harvard 1922. Assistant in Anatomy, Yale School of Medicine, 1923-1926. Assistant in Pathology, Yale School of Medicine 1927-1928. Assistant in Surgery, Yale School of Medicine 1928-1930. His subject is: "Perforation of Cecum by Foreign Bodies. With Report of a Case Simulating Appendicitis." Page 1199. Address: 605 Commonwealth Avenue, Boston.

LELAND, HAROLD L. M.D. Boston University Medical School 1917. F.A.C.S. Chief, Lowell Genito-Urinary Clinic. Visiting Surgeon, Massachusetts Memorial Hospitals. Urologist, Outpatient Department, Massachusetts Memorial Hospitals, Lowell General Hospital, Lowell Corporation Hospital, Lowell Tumor Clinic. Instructor in Genito-Urinary Surgery, Boston University School of Medicine. Address: 226 Central Street, Lowell, Mass. Associated with him is:

NELSON, N. A. B.S., M.D. Long Island College Hospital, Brooklyn, New York 1926. Epidemiologist in Charge of Venereal Disease Control, Massachusetts Department of Public Health. Address: State House, Boston. And

GORMAN, ALICE I. R.N. Graduate Nurse, St. John's Hospital, Lowell, Mass. 1920. Address: Lowell, Mass. Their subject is: "Does Follow-Up Social Service Pay in a Venereal Disease Clinic?" Page 1200.

MYERSON, ABRAHAM. M.D. Tufts College Medical School 1908. Director of Research, Boston State Hospital. Psychiatric Examiner of Prisoners, Commonwealth of Massachusetts. Professor of Neurology, Tufts College Medical School. Senior Neurologist, Boston City Hospital and Beth Israel Hospital. His subject is: "Progress in Neurology." Page 1205. Address: 270 Commonwealth Avenue, Boston.

The Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY

A. K. Paine, M.D., *Chairman* — Fred. J. Lynch, M.D., *Secretary*

M. F. Eades, M.D., *Clerk*

What do you mean by a test of labor?

The significance of the term "test of labor" is complete in the mere wording of the phrase. Since, however, there is no unanimity regarding the scope of this procedure it may be well to expand the question to include the indications for it.

Ordinarily when we speak of a test of labor we mean the act of allowing a patient, in whom there is relative but not absolute disproportion between the pelvis and the fetus, to go into labor at term with the hope that, in a vertex presentation, for example, the fetal head will become sufficiently moulded to allow of descent to the level where either spontaneous delivery or a low forceps operation may be expected. In a smaller proportion of cases a test labor may be allowed wherever previous plastic operations on the cervix have left sufficient scar tissue to interfere, possibly, with normal dilatation; where there exist congenital or traumatic cicatrices in the vagina; where there is evidence of slight separation of the normally implanted placenta at an early stage of labor; or where the patient's general condition is such that she will not stand a prolonged labor. In all these situations, as in the more usual case, a careful policy of watchful waiting may demonstrate the ability of the patient either to deliver herself or to make such progress as will allow a simple and nontraumatic pelvic operative delivery to be carried out. The alternative in all cases, is, of course, abdominal cesarean section.

As stated above, the lack of unanimity regarding the scope of a test of labor indicates that individual obstetricians do not agree as to *how much* labor constitutes a test. It has been maintained by some that no patient has had a real test of labor until she has been in the second stage for two hours without progress. This point of view seems radical, not only because lack of dilatation may in itself constitute an unsuccessful test, but because after labor starts the time factor is of utmost importance if abdominal cesarean may be safely done. For example, the primipara, with a border-line pelvis, in whom the membranes rupture early or even before labor starts, cannot be allowed with safety to remain in labor so long as she would be had the amniotic sac remained intact.

It is difficult to condense a description of a logical and sure test of labor into the short space allowed for this discussion. However, if the questionable case is submitted to a test labor, she requires constant and meticulous supervision to determine the following:

1. Steady, if gradual, increase in effectiveness of the uterine contractions.
2. Steady, if gradual, descent of the presenting part.
3. Steady, if gradual, obliteration of the cervix and dilatation of the os and pelvic soft parts.
4. Integrity of the membranes, or an exact appreciation of the time of rupture.
5. Evidence of constant rate and rhythm of the fetal heart within normal limits.

The practitioner who is allowing a patient to undergo a test of labor should keep before him-

self, as well as before the patient and her husband, the possibility that if satisfactory progress is not made after labor has begun, all circumstances must be considered at all times in order to determine the necessity for a complete change of tactics. The problem is time-consuming and calls for the best possible judgment.

Questions of a similar nature to the above will be discussed in the *Journal* each week. They may be addressed to the Clerk of the Committee in care of the *Journal* and will be answered by members of the Committee of the Section of Obstetrics and Gynecology.

THE BOSTON MEDICAL LIBRARY

THOMAS LINACRE AND THE COLLEGE OF PHYSICIANS

THE perpetuation of the traditions of a great profession rests more upon the authority of an organized group, than upon that of a succession of outstanding individuals. Team play is more desirable than individual brilliancy. The most conspicuous public service that Linacre provided was the impetus he gave to founding the College of Physicians, and apart from his scholarly achievements it is for this that he will probably longest be known among men of his profession. It was in 1518 that letters patent were granted by King Henry VIII, whose physician Linacre was, which brought this Society into existence. Associated with him in the Act of Incorporation are John Chambre and Ferdinand De Victoria, both associated with Linacre as physicians to the King, together with three other London physicians. Linacre was the first President and continued as such the remainder of his life. On the Monday following Palm Sunday a President of the College of Physicians has regularly been chosen by a procedure not unlike that prevailing in the College of Cardinals. The Fellows assemble in the Library of the College and after a declaration of vacancy in the office of President, each fellow present, who has been a member for ten years, writes the name of his choice on a slip of paper and drops it in a silver bowl. A majority elects. At the conclusion of the election the Beadle of the College carries around a receptacle from which he gives each Fellow present a new half crown. The President wears a black damask gown embroidered with gold and as he enters the hall to preside at a meeting is preceded by the bearer of the mace which is placed on the table in front of him. He always carries a silver scepter as a badge of office on such occasions. This scepter was first borne by Dr. Caius whose presidency was in 1556.

Under its charter the College has power to grant licenses to practice. Besides its Licentiates it may confer the title of Member on those Licentiates who come up for and pass a higher examination, and from this class those who have distinguished themselves in general learning or medicine may be chosen as Fellows. In 1860 Dr. Munk published a "Roll of The Royal College of Physicians of London" in which he showed how few unworthy fellows there had been and furthermore that for 400 years all but one of the really distinguished physicians of England had attained to membership, and curiously enough that one was Thomas Sydenham. The reason for this was probably a personal one on Sydenham's part. Linacre gave a house to the College where it held its meetings from 1518 to the middle of the reign of James the First when it moved its quarters to Amen Corner, close to St. Paul's Cathedral, where it remained until burned out in the fire of 1666. New quarters were then built for the Society in Warwick Lane where it remained until 1825 when it moved to Pall Mall, East, where it now is.

Besides the licensing examinations the College conducts numerous Lectures called after their founders, the Lumleian, Goulstonian, Croonian and Bradshaw, and the Oration in honor of Harvey and in praise of the benefactors of the College. This latter is delivered on St. Luke's Day.

The portico of the College is adorned with the statues of a triumvirate, symbolic of what should be the goal of everyone seeking to make the most of himself in the practice of medicine, viz.: Linacre, typifying the relation of the physician to learning in general; Harvey, indicating the importance of the natural sciences to medicine, and Sydenham, the greatest exemplifier, after Hippocrates, and up to his own time, of the value of clinical observation. Within the College on the walls of the reading room are many portraits of the distinguished fellows of the Society, some of them by famous British artists. Among these are the Monroes (five in number), Jenner, Sir William Browne, Sir Edmund King, Sir Hans Sloane, Dr. Richard Bright, Dr. Francis Glisson, president in 1757, Arbuthnot, friend of Pope and Swift and a poet of no mean capacity himself, and many others. In the Library on the second floor are gathered in a sort of a museum, the books which were used by Fellows long since gone, e.g., Caius, Gilbert, Harvey, Ent, Glisson, Sir Thomas Browne, Mead, Freind, Heberden, Askew, Brocklesby and Matthew Baillie. The character of this collection of books illustrates what the College has always stood for, viz.; the importance to the physician of a broad and liberal education, not only for his own sake but in order that the standing of the profession be maintained at a high level. There can be no doubt that the exalted position which the profession has achieved in the past in Great Britain as compared with that in other European countries, has been in great measure the result of the influence of the College. A portrait of Harvey

together with portraits of Dr. Radcliffe and Dr. Askew are also to be seen in the Library. There are also busts of Harvey, Mead and Baillie by famous sculptors. In a case at the end of the room is the mace of the College, the silver bowl used at elections, a silver mounted rod used by Harvey in his anatomical demonstrations and the famous gold headed cane successively carried by Drs. Radcliffe, Mead, Askew, Pitcairn and Baillie, covering a period of 109 years, from 1714 to 1823. Among other exhibits of interest is the account of the removal of the remains of Harvey to a vault in the Harvey Chapel in the parish church of Hempstead, Essex. In the censors' room are some of the best portraits which the College possesses, by Gainsborough, Sir Joshua Reynolds, Vandyck, Beechey and Kneller. Starting in a small way with a nucleus of only six members there has continuously existed for over 400 years a society which is a perpetual memorial of the man in whose brain was conceived an idea which has been adhered to through all these years by his successors.

The date of Linacre's birth is not positively established but was probably in 1460. He died in 1524. His birthplace was at Canterbury and his early education was obtained at the school connected with the Monastery of Christ's Church. William de Selling, a scholar who had traveled much in Italy and was well versed in Latin and Greek, had a great influence over him at this time. What college he entered at Oxford is not known but it is recorded that in 1484 he was elected a fellow of All Souls. He was twenty years of age when he entered. Cornelio Vitelli, who is believed to have been the first teacher of Greek in England, was resident at Oxford at that time and it seems likely that Linacre received his Greek instruction from him. He became an intimate of two noted Greek scholars of that day, Grocyn and Latimer. In 1485 Linacre visited Italy with his former teacher Selling, at that time the head of an embassy from Henry VIII to the Pope. He visited Bologna and Florence. It was here that he became acquainted with Piero and Giovanni de Medici, having been permitted by their father, Lorenzo de Medici, to receive instruction from Demetrius Chalcondylas and Poliziano, their tutors. Giovanni when he subsequently became Pope Leo X, did not forget his acquaintance with Linacre. From Florence he went to Rome where he met another famous scholar of those days, Barbarus, by whom he was inspired to study the works of Pliny, Aristotle, Diascorides and certain other medical writers. In Venice he met Aldus Mondinus, the celebrated printer who recognized Linacre's scholarly attainments. At Padua he spent considerable time in medical study and took a degree in medicine from here. He appears to have passed several years in Italy and to have returned to Oxford via Geneva, Paris and Calais. On the strength of his Paduan degree he was enrolled as a physician at Oxford and gave courses of lectures here on medical subjects. About 1501 he was summoned to court as instructor for Prince Arthur. In 1509 upon the accession of Henry VIII he received an appointment as physician to the King and apparently took up his residence in London where he practised, having such distinguished personages as Cardinal Wolsey, Archbishop Warham and Bishop Fox, besides his one time intimates Erasmus, Colet, Thomas More, Lily and numerous other scholars, as his patients. Through the patronage of Henry VIII, Linacre received numerous ecclesiastical preferments, many of which he kept only a short time, vacating them for a consideration. It was from these that he derived the not inconsiderable fortune which he later devoted to public purposes. He did not long continue to practice after he became a beneficiary under these ecclesiastical endowments, for the reason that he desired more time for his studies. He was anxious to establish professorships both at Oxford and Cambridge but it was not until eight days before his death that permission to do so was granted him and two were founded at Oxford and one at Cambridge. The two established at Oxford had a precarious existence and were finally merged into one Chair in Physiology, bearing Linacre's name. At Cambridge the lectureship has been abandoned. His classical scholarship applied to medical subjects served to bring about a renaissance in medicine calling men back to classical subjects and away from the "Arabists" and "Materies" who had been regarded as holding the keys to knowledge. One advantage this had was to bring about a revival of anatomical and botanical study and to stimulate an interest in clinical investigation. He spoke and wrote Latin and Greek in the greatest purity and he was equally distinguished as a rhetorician and a philosopher, which meant in the language of the time, that he was well versed in the scientific and medical writings of the ancients. His personal character was exemplary and he appears to have had no enemies. Few members of the profession have exerted an influence which has been so far reaching and has served to keep the standards so high, as did Thomas Linacre.

MISCELLANY

PROPOSED MINIMUM STANDARDS FOR THE DIAGNOSIS, TREATMENT AND CONTROL OF GONORRHEA

In order to bring order out of chaos the Massachusetts Department of Public Health invited a large number of physicians practicing throughout the State to confer with the section of epidemiology of the Department at a meeting held December 3 at the Boston City Club.

There were forty-six persons present representing specialists and general practitioners.

Dr. N. A. Nelson, epidemiologist in charge of venereal disease control, called the meeting to order and presented a carefully arranged paper in which proposals for minimum standards for the diagnosis, treatment and control of gonorrhea were set forth.

These preliminary recommendations covered twenty pages of typewritten matter in addition to an introductory announcement.

The meeting was asked to consider the recommendations the text of which was read by Dr. Nelson, each paragraph being open for discussion. Concentrated attention was focused on every line in a thoroughly constructive way which demonstrated the purpose of the meeting to assist the Department in the arduous task before it.

The material as amended will be put into form for distribution to physicians and will be a valuable chart for the guidance or practitioners in dealing with the problems of gonorrhea.

After consideration of the paper, it was thought advisable to form a society which would meet at intervals for the purpose of coöperating with the Department of Public Health in dealing with the gonorrhea problem.

The officers of the society were elected as follows:

President, Dr. J. Dellinger Barney of Boston.

Vice-President, Dr. W. D. Bieberbach, Worcester.

Secretary-Treasurer, Dr. Oscar F. Cox, Jr., Newtonville.

The executive committee will consist of the officers and two members to be appointed by the President. Details with respect to a suitable name for the organization, constitution, by-laws and annual dues will be arranged later.

That a society composed of scientific and enthusiastic physicians finds that the problem incident to gonorrhea is of importance both from clinical and public health angles is encouraging.

Until the public and physicians were stimulated to develop an organized approach to the important problems of the disease under consideration, there was little likelihood of any great advance in dealing with gonorrhea because comparatively few realized that about eleven thousand cases are recorded each year in Massachusetts and that this number is only about a fourth of the actual incidence of the disease.

Although gonorrhea is generally classified as a venereal disease, it is well known that certain cases have no venereal background.

The subject is more complicated than is usual with many of the problems incident to public health and individual responsibility with respect to the well-being of communities.

THE STATUS OF THE MRS. VIRGINIA WARNER AND THE DR. GEORGE J. OTT CASES

According to a report published in the *Boston Herald* of December 3, 1930 the verdict of the lower court convicting Mrs. Virginia Warner of a statutory offense was set aside by Judge Harold P. Williams of the superior court in a directed verdict.

Mrs. Warner appealed from the decision of the lower court. Judge Williams is reported in the *Herald* to have stated that "sufficient evidence had not been introduced to convict the defendants". (Mrs. Warner and the corespondent.)

On Mrs. Warner's testimony the registration of Dr. George J. Ott was suspended by the Board of Registration in Medicine.

After the registration of Dr. Ott had been suspended, detectives were employed to investigate Mrs. Warner's conduct and on the testimony of these detectives a verdict against Mrs. Warner was rendered in the lower court.

An appeal to the Supreme Court by Dr. Ott resulted in the setting aside of the verdict of the Board of Registration in Medicine by Justice Waite.

A representative of the Attorney General of the Commonwealth, acting for the Board of Registration, has appealed from the decision of the single justice to the full bench of the Supreme Court.

Any expression of opinion or comments seem to be uncalled for, since certain features of the actions by the parties concerned may be affected by the decision of the Supreme Court if the full bench finds occasion for a review of the decision of the single justice.

RECENT DEATH

TWITCHELL—Dr. George Pierce Twitchell, a Fellow of the Massachusetts Medical Society since 1882, died at his home in Greenfield after a long illness, December 2, 1930, at the age of 75. We hope to publish an obituary of Dr. Twitchell at an early date.

NOTICE

RADIO MESSAGES

Sponsored by the State Department of Public Health, Courtesy WBZA

Every Wednesday at 5:20 P. M.

December 17—"Accidents", Dr. Louis G. Howard.

December 24—"Some Diseases We Don't Talk About—And Why Not?" Dr. N. A. Nelson.

December 31—"The Hospital and the Public Health", Dr. Henry M. Pollock.

A "Health Forum" directed by the State Department of Public Health, courtesy WEEI, began October 2, 1930 and will continue Fridays at 4:50 P. M. Queries and Answers will be broadcast.

Questions on health and prevention of disease may be sent to "Forum", State Department of Public Health, State House, Boston, Mass.

NOTICES OF MEETINGS

MASSACHUSETTS PSYCHIATRIC SOCIETY

The next meeting of the Society will be held at the Boston Psychopathic Hospital, 74 Fenwood Road, at eight o'clock on the evening of Friday, December 12.

The speaker will be Dr. Earl D. Bond of Philadelphia, who will deliver an address on the work and purposes of the Institute for Mental Hygiene recently opened by the Pennsylvania Hospital.

The opening of the Institute is a significant step in the mental hygiene movement. Both on this account and because of the fact that Dr. Bond is widely known in this State through his service as Secretary and President of the American Psychiatric Association, a large attendance is hoped for.

Light refreshments will be served.

Names of applicants for membership will be submitted for action by the Society.

WINFRED OVERHOLSER, M.D., *Secretary.*

THE NEW ENGLAND ROENTGEN RAY SOCIETY

The December meeting will be held at the Pondville State Hospital, Friday night, December 19, 1930.

PROGRAM

6:30—Dinner at Pondville State Hospital.

7:30—Inspection of Hospital.

Scientific Session at 7:45

Exhibition of patients. Drs. Richard Dresser and E. M. Daland. Analysis of two years' Breast Cases. Dr. E. M. Daland.

Lymphoma in Bone. Dr. Richard Dresser.

The State's Cancer Campaign. Dr. George H. Bigelow, Commissioner of Health.

Buses will leave the Boston Medical Library at 5:15.

Dr. MERRILL C. SOSMAN, *President,*
Peter Bent Brigham Hospital,
Boston, Mass.

Dr. T. R. HEALY, *Secretary,*
370 Marlborough St., Boston, Mass.

NEW ENGLAND HOSPITAL FOR WOMEN AND CHILDREN

The monthly clinical conference will be held at the New England Hospital for Women and Children on Thursday, December 18, at 8 P. M. with the following program: 1. Report and discussion of a case of acute lymphatic leukemia, with autopsy findings. 2. A case of acrodynia in an infant ten months of age. 3. The leucocytic reaction of tuberculosis in infants and children.

ALICE H. BIGELOW, *Secretary.*

THE NEW ENGLAND PHYSICAL THERAPY SOCIETY

The next regular meeting of the New England Physical Therapy Society will be held at the Boston Square and Compass Club on Wednesday, December 17 at 8.15 P. M.

Program: Symposium on Galvanism.

The principal paper will be that of Dr. G. W. Dickinson on "The Therapeutic Application of Galvanism in Some Important Pathological Conditions."

ARTHUR H. RING, *Secretary.*

SOCIETY MEETINGS
CONGRESSES AND CONFERENCES

December 12—Massachusetts Psychiatric Society. See page 1223.

December 12—The New England Pediatric Society. See page 1179, issue of December 4.

December 12—The William Harvey Society. Details appear on page 1179, issue of December 4.

December 15—Boston Medical History Club. Medical Historical Pageant. See page 1188.

December 15 and 17—Harvard University Medical School. Two Lectures on Recent Work on the Metabolism of the Eye. See page 1110, issue of November 27.

December 16—South End Medical Club. See page 1179, issue of December 4.

December 17—The New England Physical Therapy Society. Details elsewhere on this page.

December 18—New England Hospital for Women and Children. Details elsewhere on this page.

December 19—The New England Roentgen Ray Society. Details elsewhere on this page.

January 7—Cardiac Course. See page 854, issue of October 23.

March 23-27, 1931—Fifteenth annual clinical session of the American College of Physicians. Detailed notice appears on page 790, issue of April 17.

July 27-31, 1931—Third International Congress of Radiology, Paris. Complete notice appears on page 385, issue of August 21.

DISTRICT MEDICAL SOCIETIES

Bristol North District Medical Society

April 16, 1931—Taunton Woman's Club.

September 17, 1931.

Essex South District Medical Society

Wednesday, January 7, 1931—Beverly Hospital. Clinic 5 P. M. Dinner 7 P. M. Symposium on Duodenal Ulcer. Speakers: Dr. Franklin White, Medical Aspect. Dr. A. W. George, X-ray Aspect. Dr. P. P. Johnson, Surgical Aspect.

Wednesday, February 4, 1931—Council meeting, Boston.

Wednesday, February 11, 1931—Danvers State Hospital. Clinic at 5 P. M. Dinner 7 P. M. Speaker: Dr. Bryant E. Moulton, Assistant Director of the Judge Baker Foundation. Subject: "Juvenile Delinquency."

Wednesday, March 4, 1931—Lynn Hospital. Clinic at 5 P. M. Dinner at 7 P. M. Speaker: Dr. Arthur Allen, of Boston. Subject: "Neurovascular Surgery, including injections for varicose ulcer."

Thursday, May 7, 1931—Censors meet at Salem Hospital at 3:30 P. M.

Tuesday, May 12, 1931—Annual Meeting. The Tavern, Gloucester. Speaker: Dr. Morris Fishbein, Editor of the A. M. A. Journal of Chicago. Subject: "History of Medical Cults." Ladies invited.

Franklin District Medical Society

January, 1931-May, 1931—The meetings are held on the second Tuesdays of January, March and May at 11 A. M. at the Weldon Hotel, Greenfield.

Middlesex East District Medical Society

January 14, 1931—Harvard Club of Boston.

March 11, 1931—At Reading.

May 13, 1931—At Wakefield.

Norfolk South District Medical Society

The meetings for the ensuing year are as follows:
January 8, 1931, February 5, 1931, March 5, 1931, April 2, 1931, May 7, 1931.

All meetings begin at 12 noon. The February meeting will be held at the Quincy City Hospital. All other meetings will be held at the Norfolk County Hospital, South Braintree.

The censors will meet on May 7 at 11:30 A. M. at the Norfolk County Hospital, South Braintree.

NATHAN R. PILLSBURY, Secretary.

Suffolk District Medical Society

December 17-April 29—Combined meetings with the Boston Medical Library. These meetings will be held as specified below on Wednesdays, at 8:15 P. M.

December 17, 1930—Clinical Program, Boston Dispensary.

January 28, 1931—General meeting in association with the Boston Medical Library at the Boston Medical Library. "The Practice of Medicine in Relation to Public Health Activities." Speakers to be announced later.

February 25, 1931—Clinical Program, Boston City Hospital.

March 25, 1931—Clinical Program, Beth Israel Hospital.

April 29, 1931—Annual Meeting. Election of Officers. Boston Medical Library.

The medical profession is cordially invited to attend all of these meetings.

GEORGE S. DERBY, M.D.,
President, Suffolk District Medical Society.

LELAND S. McKITTRICK, M.D.,
Secretary, Suffolk District Medical Society.

HILBERT F. DAY, M.D.,
Boston Medical Library.